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AUGUST 1974

FEED Situation

ECONOMIC RESEARCH SERVICE

U. S. DEPARTMENT OF AGRICULTURE

Table 1 .--Corn: Acreage, supply, distribution and prices, 1969-74

Item	1969/70	1970/71	1971/72	1972/73 preliminary	1973/74 est.	1974/75 forecast 1/
Acreage (Mil.)						
Base or allotment	90.3	90.3	90.2	88.1	88.7	---
Set-aside	27.2	26.1	14.1	24.4	6.0	0
Planted	64.3	66.8	74.1	67.0	71.6	77.4
Harvested for grain	54.6	57.4	64.0	57.4	61.8	63.8
Yield per acre (Bu.)	85.9	72.4	88.1	97.1	91.4	77.8
				Mil. bu.		
Supply						
Carryin (Oct. 1)	1,118	1,005	667	1,126	709	428
Production	4,687	4,152	5,641	5,573	5,643	4,966
Imports	1	4	1	1	1	1
Total	5,806	5,161	6,309	6,700	6,353	5,395
Disappearance						
Feed	3,795	3,581	3,978	4,310	4,265	3,710-3,830
Food, Ind. and Seed	394	396	409	423	435	445 - 455
Total domestic	4,189	3,977	4,387	4,733	4,700	4,155-4,285
Exports	612	517	796	1,258	1,225	900 - 750
Total	4,801	4,494	5,183	5,991	5,925	5,055-5,035
Carryout (Sept. 30)						
Government 2/	543	330	718	*172		
"Free"	462	337	408	537		
Total	1,005	667	1,126	709	428	340 - 360
				Dol. per bu.		
Price Support and season price						
National av. loan rate	1.05	1.05	1.05	1.05	1.05	1.10
Support payment 3/	.13	.14	.16	.0	.0	
Received by farmers 4/	1.16	1.33	1.08	1.57	2.60	
Chicago, No. 2 yellow	1.31	1.47	1.23	1.91	**2.90	
Omaha, No. 2 yellow	1.24	1.39	1.23	1.80	**2.73	

1/ Based on August 1974 indications.

2/ Under loan and owned by CCC on October 1, 1973 includes grain committed for sale by CCC and still carried as part of total inventory in earlier years included only grain not committed for sale.

3/ Average earned on all corn produced. 4/ Excludes support payment .

* Includes 81 million bushels committed for sale by CCC.

** October-August average.

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SUMMARY

Feed grain production, as forecast August 1, and this year's small carryover stocks would make supplies for 1974/75 total about 196 million short tons, 18% less than in 1973/74 and the least since 1957/58. This points to sharp reductions in both domestic usage and exports of feed grains in 1974/75 and to higher prices.

Unfavorable weather conditions have lowered feed grain crop prospects sharply from projections which had been made earlier in the season based on acreage intentions and projected yields. The first forecast by the Statistical Reporting Service of the 1974 corn crop as of August 1 was for a crop of 4.97 billion bushels, sharply below the 5.6 billion bushel crops in the past 3 years, and even further below the first projection of 6.7 billion bushels. Drought and a heat wave in July in the western Corn Belt and some other major production areas were principal causes of the diminished crop prospects. Also, some intended corn acreage never got planted because of the wet spring.

The unfavorable weather has lowered prospects for other feed grain crops and for soybeans as well. As a result, feed grain crops (corn, grain sorghum, oats, and barley) were forecast as of August 1 to total 175 million short tons, 15% below 1973 and the least since 1970. Pastures have deteriorated from the drought and supplemental feeding of livestock has been required in many parts of the country.

If feed grain production turns out to be in line with these forecasts, corn prices at the farm in 1974/75 likely will average substantially above the season average price of $2.60 per bushel forecast for 1973/74. Domestic use of grains for livestock feeding consequently is projected at 134 to 139 million tons, 11 to 14% below the 1973/74 record.

Foreign demand for feed grains is strong, although total takings will be smaller in 1974/75. Exports are estimated at 24 to 30 million tons compared with 44 million tons expected this year. However, there is considerable uncertainty within this range, since it is difficult to anticipate the response of foreign buyers to the short crops and higher prices.

On August 26, the USDA announced there will be no set-aside acreage requirements on plantings for 1975 crops of feed grains, wheat, and upland cotton—the same as for the 1974 crops. Other Government program provisions for 1975 will be announced later when prospects for this year's production of these crops and their utilization become firmer.

WHAT HAPPENED

As our last *Feed Situation* was being prepared in mid-May, corn farmers had already seeded over half of this year's intended acreage. Prices were receding from the peak of late February as a bumper crop seemed to be in prospect. Intended acreage of feed grains was up 4% from 1973, with corn acreage leading the way with 10%. Weather had been good and the USDA projected yield of 97 bushels per acre reflected likely availability of fertilizer, fuel, and other inputs. As always, the projected yield was based on the assumption of normal weather conditions during the growing season.

But, beginning in mid-May, prospects for the big crop began to change dramatically. For 4 weeks (through mid-June), persistent rains kept farmers out of their fields and caused extensive replanting in a number of areas. As a result, farmers were pushed well beyond their usual June 15 deadline for completion of planting. Consequently, a significant amount of corn had to be planted in late June and July, which resulted in an extremely wide range in stages of plant development.

Then the rain stopped in June and did not return when needed except as scattered local showers. In much of Nebraska, Kansas, and western Iowa, continuous dry weather accompanied by sustained periods of over 100° daytime temperatures caused considerable damage to crops. July rainfall in parts of the Nation's heartland was the lowest in more than 40 years.

Because of that hot dry weather and because acreage planted was less than intended, several progressive changes in USDA projections of this year's feed grain crops were made.

	Corn		Total feed grain Production
	Yield	Prod.	
	Bu. per acre	*Bil. bu.*	*Mil. tons*
March 15	97	6.7	234
June 24	(implied) 94	6.4	227
July 12	88-94	5.95-6.35	210-221
July 25	88-92	5.95-6.22	209-217

The first forecasts of crops based on comprehensive statistical measures by the Statistical Reporting Service were made as of August 1 and showed corn yield at 78 bushels per acre, corn production at 4.97 billion bushels, and total feed grain production of 175 million tons.

FEED SITUATION

CONCENTRATES (ALL)

Supply Down 14%

The supply of all feed concentrates for October-September 1974/75 is forecast at 239 million tons, of which 196 million tons is feed grains. The concentrates total is 14% less than in 1973/74 and the lowest since 1966. The reduced supply is primarily in feed grains. Total byproduct feeds available for domestic use may amount to around 35 million tons, about the same as 1973/74. The volume of byproduct feeds available for feed use has been level at about 34 or 35 million tons over the past several years. The prospective 18% smaller feed grain supply will account for most of the drop in the total concentrate supply for 1974/75.

Volume Available for Feed—the Least Since 1968

After allowing for about 56 to 63 million tons for food-industry-seed, export demand, and carryover in 1974/75, about 178 to 182 million tons of feed concentrates remain available for domestic feeding, 7 to 10% below 1973/74 and the lowest volume since 1968. This total consists of about 134 to 139 million tons of feed grains, 35 million of byproducts and 8 million tons (267 million bushels) of wheat. Supplies of feed grains and roughages will be relatively shorter in the western portion of the Nation than in the East. But with the large supplies of wheat in the Western States, a sizable amount of it could move into feed if export demand for wheat wanes and if the price spread between wheat and feed grains narrows as now seems likely. The rise in feed grain prices since spring has been relatively more than the rise in wheat prices. In mid-August, Kansas City wheat (on a pound-for-pound basis) was only 12% higher than Chicago corn. Last spring, wheat prices were as much as 60% above corn prices.

Grain Consuming Animal Units and Feeding Rates

Grain-consuming animal units (GCAU's) and feed use per unit traditionally have been used for estimating U.S. feed consumption. As a general rule, the higher that livestock product prices are relative to grain prices, the higher the feeding rate per animal, and vice versa. However, the traditional measures appear to be less meaningful for 1974/75 because of the restricted supply of feed.

Grain consuming animal units in 1974/75 are projected to decline 7 to 17% from the 78 million estimated for 1973/74 because of continuation of the high cost of producing meat, milk, and eggs in relation to prices received for these commodities. Apparent feeding rates as applied to grain-consuming animal units will continue high, perhaps somewhat higher than those of 1973/74. However, on the basis of all animals, feeding rates will probably drop again in 1974/75 because livestock-feed price ratios likely will continue unfavorable.

In 1973/74, the heavy feeding rate per animal may have falsely created the impression of highly profitable livestock and poultry feeding industries. This impression is misleading since prices received for livestock and poultry so far this marketing season are low relative to grain prices. With this unfavorable situation, one traditionally thinks of reduced feed consumption and feeding rates. However, consumption of feed is heavy and feeding rates in 1973/74 are probably record large at about 2 tons of feed grains per grain-consuming animal unit.

Why the heavy feeding rate? The question cannot be answered conclusively. However, on January 1 and on July 1, the inventory of cattle was record large, up 6% from a year earlier. In sharp contrast, cattle on feed numbers have been dwindling for the past several months, reflecting the financial stress of the cattle feeding industry. The fewer cattle on feed together with the record large herd mean that more than the usual number of cattle are being held outside feedlots. These are not included in the grain consuming animal unit category but fall in the roughage-consuming animal category which will be about 6% lower than in 1973/74. Many of these animals are fed some grain along with dry roughages, particularly in the winter when grain grazing is not generally available. Furthermore, rapidly deteriorating pastures and ranges in July in many of the Western States also forced stepped-up consumption of grain and hay.

In much of 1974/75, there probably will be a decrease in feed consumption by the hog, poultry and dairy industries in response to cutbacks in numbers raised because of low returns. Feed consumption by cattle remains a big question mark. Some cattle feeders in July and early August probably could have locked in a little profit by using the distant futures market and applying a sharp pencil to input costs. But relatively few cattlemen reportedly use the futures market, partly because of the risk in having to

Feed concentrates consumed by livestock and poultry

	Year beginning October[1]		
	1972	1973[2]	1974[3]
	Million tons	*Million tons*	*Million tons*
Annually:			
Concentrates			
Supply	287.9	278.4	239.0
Fed			
Feed grains ...	155.4	155.9	134.5-138.7
Wheat	5.0	5.5	8.0
Rye	.5	.5	.5
By product feeds	33.7	34.7	34.9
Total, fed ..	194.6	196.6	177.9-182.1
	Million tons	*Million tons*	*Million tons*
Grain-consuming animal units[4]			
Dairy cattle	12.8	12.5	
Cattle on feed	21.9	20.7	
Other cattle	5.0	5.4	
Hogs	20.5	19.9	
Poultry	18.0	18.1	
Other livestock ...	1.0	.9	
Total	79.2	77.5	65-72
	Tons	*Tons*	*Tons*
Supply per GCAU ..	3.67	3.59	3.68-3.32
	Million tons	*Million tons*	*Million tons*
Quarterly:			
Concentrates fed			
Oct.-Dec.	64.3	62.3	
Jan.-Mar.	49.8	51.9	
Apr.-June	40.0	41.1	
July-Sept.	40.5		
Total, year ...	194.6	196.6	177.9-182.1
	Tons	*Tons*	*Tons*
Concentrates fed per GCAU			
Oct.-Dec.	.81	.80	
Jan.-Mar.	.63	.67	
Apr.-June	.51	.53	
July-Sept.	.51		
Total, year ...	2.46	2.53	2.74-2.53

[1] Except oat and barley supplies which start July 1. [2] Estimate, August 1974. [3] Projected. [4] Livestock and poultry fed during the October-September feeding year weighted by relative consumption of grain and other concentrates; 1 unit is equivalent to 1 milk cow.

supply additional capital in the event of price rises and margin calls. And in addition, capital to finance cattle feeding is tight.

Feed costs likely will remain high (perhaps even strengthen further from the mark estbalished in August) while considerable uncertainties remain in the near outlook for feeder cattle prices. These prices will stay relatively low if feeder cattle continue to be forced into the slaughter market because of lack of pasture and hay.

Livestock and poultry numbers

Class	Date	1973	1974	Change
		Million head	*Million Head*	*Percent*
Cattle	July 1			
On feed		13.1	10.3	-21
Dairy cows ..		11.4	11.1	-2
Other cattle .		106.4	116.9	+10
Total		130.9	138.3	+6
Hogs and pigs .	June 1	60.0	59.4	-1
Lamb crop ...		11.5	10.6	-8
Hens and pullets	Aug. 1	283.3	276.6	-2
Broilers placed for marketings	July-Sept.	775	765	-1
Turkeys raised .	Jan.-Dec.	132.2	132.7	0

Rain during early August brought relief to dry pastures over much of the Nation, but more moisture was needed to improve conditions. Furthermore, the U.S. hay crop was forecast as of August 1 at 120 million tons, about a tenth below 1973 and the lowest since 1964.

If weather this autumn is good for pasture and ranges and late cuttings of hay, feeder cattle can be marketed in a more orderly fashion, which would imply a better balance between feeder cattle offerings and feedlot demand. Following the negative returns over the past several months, many cattle feeders reportedly are having trouble finding capital to finance their operations because of the great uncertainties about costs and returns that lie ahead.

FEED GRAINS

Acreage Up Slightly

Farmers planted 123 million acres to feed grains this year, only 1% more than last year. Probably because of the unusually wet weather at spring planting time, the planted acreage was 3 million below the March 1 prospective plantings. The drop from intended acreage was about 1 million acres each in corn, sorghum and oats. Thus, a significant volume of potential feed grain production was lost because farmers could not get it planted.

Drought Curtails Production

Feed grain production for the 1974/75 marketing year was forecast at 175 million tons in the USDA August *Crop Production.* A crop of this size would be 30 million tons below last year's and the lowest since the blight and drought shortened crop in 1970. The crop would compare with a potential output of 235 million tons on the basis of intended acreage and yield at near trend if mother nature had been kinder.

In contrast to the past 3 years, the crop is poorly distributed, and this may increase shipping expenses for some areas in need of grain. The Western Corn Belt traditionally produces more feed grain than the eastern portion. However, drought has cut estimated output in the West North Central States by a fifth from 1973. Corn and sorghum crops were especially hard hit in Nebraska, Kansas, Iowa and Missouri. Feed grain production in the East North Central Region was forecast at 57 million tons, only 5% less than in 1973, but 10% below the record output in 1972. Corn crop prospects are especially good in the northern tier States of Minnesota, Wisconsin and Michigan. Feed grain production prospects in the South are down about 13%, while the North Atlantic States likely will have a big feed grain crop.

Crop Losses Severe

While many farmers will suffer large losses because they lost much of their crop to the drought, other farmers with near normal or better crops will perhaps receive their largest income ever from corn because of the higher price. One major problem is the uneven distribution of the crop. In 1973, the crop was reasonably well distributed and most U.S. farmers shared in it's record value. Government disaster payments will be made to producers having large crop losses in 1974, which will help offset some of the crop input costs. The cost to the Nation's economy in terms of reduced domestic disappearance, livestock output, and exports is extremely serious.

Crop Disaster Payments

Under the 1973 Agriculture and Consumer Protection Act, farmers prevented from planting any portion of their farm acreage allotment to feed grains (or other nonconserving crops) because of drought, flood or other natural disasters, may apply to their county ASCS office for disaster payments. Payments for that portion of the land not planted due to natural disaster have been established as one-third of the target price (in the case of corn, 46¢ a bushel) times expected production of the farm computed from projected yields and feed grain allotments.

Producers are also eligible for payments if, because of a natural disaster, the total volume of feed grains (or authorized substitute crop) harvested on the farm is less than a specified percentage of the farm acreage allotment times the farm's projected yield of grain. Again the payment rate for the production deficiency below the expected production would be one-third of the target price. (Expected production is the farm projected yield multiplied by the farm acreage allotment.)

For further information regarding this provision of the Act, interested persons should get in touch with the county ASCS office.

Domestic Feed Use in 1974/75 Hinges on Several Factors

In addition to available supplies of feed, the economic status of the livestock and poultry industries over the next several months will have a major impact on meat, milk and egg output and ultimate feed demand. The livestock and poultry people have been under financial stress since last fall as production costs have generally exceeded market prices. Rarely have we simultaneously been faced with a depressed domestic livestock industry and prospects for critically short supplies and high prices of feed. In many of the years before 1972, an imbalance in the livestock-feed complex was the result of depressed livestock market prices resulting from burdensome product supplies. Sometimes the overabundant supply of meat stemmed from large supplies of low-priced feed.

Market prices of meat, milk and eggs over the past 18 months have been generally higher than most previous years but they have not kept pace with sharply rising production expenses. For example, the price of Choice steers at Omaha averaged 45¢ a pound in January-March 1974, up 9¢ from 2 years earlier. But the average total cost of producing the animal was estimated to be 51¢ a pound (table 15), much higher than 34 to 39 cents per pound production costs during 1972. The higher production cost was due to sharp increases in prices of both the feeder steers and feed. Feeder steer prices (prorated over the animal's slaughter weight) increased from 22 cents per pound of slaughter weight in early 1972 to a peak of 33 cents per pound in July-September 1973. In July-September 1973, the feed cost of 15 cents a pound was almost double that of early 1972.

But more recently, record supplies of feeder cattle are running up against considerably weaker demand from feedlot operators, sharply reducing prices of feeder cattle. Range and pasture conditions may force many of the animals to market in spite of the currently lower prices of feeder cattle.

The conditions of the commercial hog feeding industry have been similar to those of the cattle feeding industry. Hog prices have also averaged well above those of most recent years but so have production costs. After dropping to a low of 27¢ a pound in June 1974, prices of barrows and gilts have surged back to the upper 30's. Total costs of production in April-June 1974 had declined significantly from earlier periods primarily due to the sharp drop in feeder pig prices. Feed costs however, remain about double those for most of 1972.

If the prices of feeder cattle and pigs remain near the low levels of recent weeks, feed demand might be boosted some despite prospects for continued high feed costs. However, if pasture conditions improve so that the flow of feeder cattle to market is reduced, strengthening feeder cattle prices would reduce the demand for feed.

Feed demand by the poultry industry will likely be weak because of reduced output of broilers, turkeys, and eggs in response to low or even negative incomes.

Although strong feed demand may prevail during part of the season, the short crop and supplies will be the major factor limiting the domestic consumption of feed. With the 18% smaller supply and an allowance for the October 1, 1975 carryout, about 181-182 million tons of feed grains will be available for domestic use and exports.

World Crop and Foreign Trade Prospects[1]

As of mid-August, prospects for world grain crops this year were somewhat less favorable than earlier indications. World output of all grains in 1974 currently is projected at 942 million metric tons, 3% less than in 1973, but second largest crop on record. The bulk of the drop is due to prospects for shorter crops in the United States, which became apparent with the August *Crop Report*. For the USSR, the estimate of 1974 wheat production was reduced somewhat due to reports of unfavorable weather in the new lands. Total grain production in all other foreign countries (which account for about 55% of world grain production) is expected to equal last year's record, assuming average crops in the Southern Hemisphere in early 1975.

World output of feed grains is projected at 581 million metric tons, 3% below 1973. Most of the drop is due to prospects for shorter feed grain crops in the United States. Crop prospects in foreign countries point to somewhat larger outturns than in 1973.

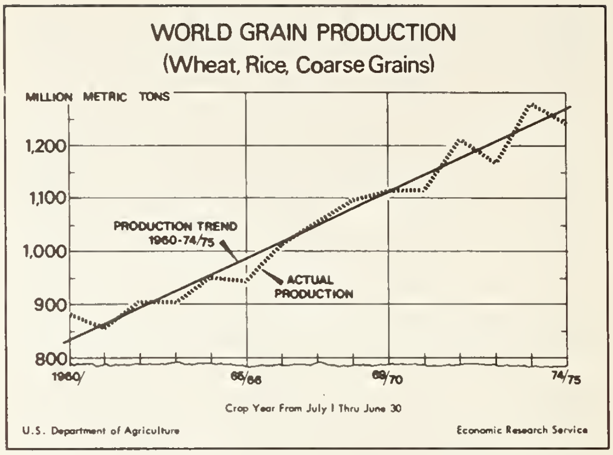
World trade in feed grains may drop to about 57 million tons in 1974/75 from the 76 million traded in 1973/74, because of reduced availabilities from the United States.

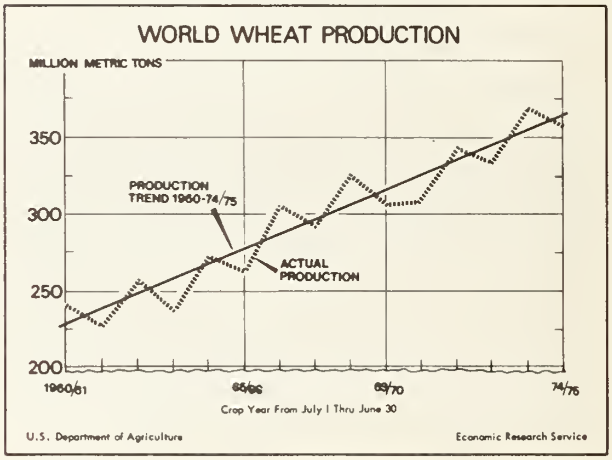
Exports of U.S. feed grains in 1974/75 are expected to be down mainly because of reduced takings by Western Europe, USSR, and the People's Republic of China. In Europe, the response to higher feed grain prices in 1974/75 likely will include (1) reductions in volume imported, (2) increased amounts of wheat fed, (3) reductions in wheat exports, and (4) some reduction in total grain used.

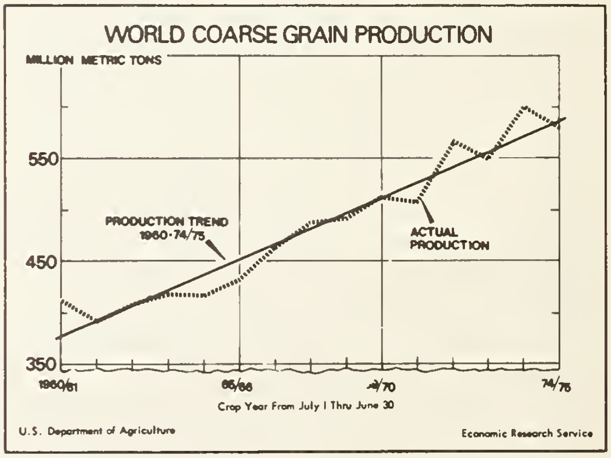
World Meat Situation[1]

Since much of the feed grain imported by feed deficit nations is fed to livestock and poultry, the outlook for meat, milk and egg output in these countries is pertinent to the world demand for feed commodities.

The situation in other major meat producing countries is similar to that in this country. First, there are record numbers of cattle in the major beef trading nations. Second, cattle slaughter rates (as a percentage of the inventory) have been declining since 1971 while herd sizes have been increasing sharply. The slowdown in slaughter rates is being partly offset by increased slaughter weights. If the slaughter rates were to return to the higher average


WORLD GRAIN PRODUCTION
(Wheat, Rice, Coarse Grains)


WORLD WHEAT PRODUCTION


WORLD COARSE GRAIN PRODUCTION

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[1] Largely drawn from other published reports of the Economic Research Service and Foreign Agricultural Service.

rates of the 1960's, and assuming the trend continues toward heavier weights, world beef and veal production could increase substantially—perhaps by as much as 20-25%.

It was recognized early last spring that mounting stocks of poultry meats in the European Community would suggest the need for downward adjustments in output. Several member countries agreed to cut back production during the second half of 1974 to a level which would be equal to about 2½% annual reduction. In addition, the Community established a special export subsidy of 7¾ cents per pound to producers of broilers to alleviate the surplus, estimated at 40,000 to 50,000 tons. Through early summer, about 22,000 tons of broiler meat were exported under this subsidy program, with about half going to the USSR.

The Community's cutback in broiler output during July-December 1974 would involve the equivalent of about 7 or 8 million bushels of corn, a relatively small percentage of the total world feed grain trade, but still significant.

U.S. Export Prospects and Bookings

U.S. feed grain exports in 1974/75 will be down sharply from the 40-million-ton plus levels in each of the previous 2 years. A major factor behind reduced export potentials in 1974/75 is the likely decline in foreign feeding due to restricted U.S. supply, forecast to be the lowest since 1957. A 43-million-ton export demand had been projected earlier. But in the wake of present prospects for a supply of only around 196 million tons, estimates of U.S. feed grain exports have been lowered to a range of 24 to 30 million tons. There is considerable uncertainty even within the range, since it is difficult to anticipate the impact of the short U.S. crop and higher prices on export demand.

Prior to mid-July, importers were slow to buy U.S. feed grains for shipment in 1974/75, apparently choosing to wait out the prospects for a big crop and lower prices. However in response to deteriorating crop prospects in July, feed grain export business started to pick up. On July 21, U.S. exporters reported sales of about 271 million bushels of corn for export in 1974/75. By August 18 (latest data available), bookings had jumped sharply to 949 million bushels. Most of the purchases have been made by Japan and the European Community. Export bookings for unidentified destinations, at 265 million bushels, made up about 28% of the total bookings.

Price Levels and Patterns for Feed Grains

A number of factors will primarily influence the general price level of feed grains in 1974/75:

1. Supplies available to the market will have their traditional effect on prices. This year's extremely tight supply by itself would imply prices at high levels. However, the 12-month marketing season is influenced by an overlap of supplies actually available for the market and crop prospects for the upcoming season. Acreage planted and weather conditions next spring and summer will have an important influence on prices during April-September 1975. Nevertheless, the current tight supplies will support a continuation of high prices because the new crop will not become available until the autumn of 1975. The 1974 crop prospects have had a major influence on 1973/74 season prices since last spring. In essence, the price season starts at crop planting time in years when available supplies are virtually determined by production. Feed grain disappearance has exceeded production and ending carryover has declined in 4 out of the last 5 years (including 1974).

2. Demand from domestic livestock and poultry industries also helps establish prices of feed grains. Until recent years the livestock industry flourished because of strongly rising consumption of meat and poultry and relatively low and stable feed costs resulting partly from feed grain price support programs. However, tightening supplies and increased demand since 1972/73 have increased prices substantially from the low levels of most earlier years. One factor in the past two years that has enabled the domestic feeding industry to compete with foreign buyers of U.S. feed grains has been higher prices of livestock and poultry products. For example, the last time daily hog prices dipped below $20 per cwt. was in 1971; prices of Choice beef steers have not been below $30 per cwt. since January 1971.

Although recent livestock and poultry prices have been above average, there is an upper limit on prices the commercial feeder can pay for feed. On the basis of data in table 15, it seems that $3.00 per bushel corn (Omaha basis) may be near the peak price that cattle feeders would purchase grain, assuming the other input costs (including feeder steers) and current fed cattle market prices are typical. Declines in prices of feeder cattle would enable cattle feeders to pay higher prices for feeds. The Midwest commercial hog feeder may also begin to reduce his corn purchases at around $3.00 per bushel. Sustained higher market prices of meat, milk and eggs could increase livestock producers' ability to pay increased prices for feedstuffs, but would likely limit the quantities of livestock products consumers would be able to buy.

3. Export demand has become a more important force behind prices. In 1967-71, feed grain exports averaged 12% of production; in 1972/73 and in 1973/74 exports averaged 21% of production. In 1974/75, exports are forecast at about 14 to 17% of the prospective crop.

4. Out of the "big three" crops (corn, wheat, and soybeans), prices of corn will be subject to the greatest upward pressure in 1974/75 because of corn's extremely tight supply situation. In recent years, price changes among these crops have generally been

parallel except for independent movements of short duration. In most of 1973/74, corn and soybean price changes tended to follow those of wheat because of the tightness in wheat. In 1974/75, wheat is in a better supply-demand balance than corn and soybeans.

Farm use of feed grain crops also will have an impact on prices in 1974/75. In contrast to many other crops, a sizable portion of feed grain production is fed on farms where grown. It is estimated that only 37% of the 1973 crop is being fed on farms where produced. Sales of feed grains as a percentage of the crop have been trending upward in recent years, indicating that feed grain production is becoming more specialized. In 1974/75, an even smaller share of the crop likely will be retained as grain-livestock farmers find it more profitable to sell their grain instead of marketing it through their livestock.

Use To include All of Crop and Part of Carryover

Total disappearance of feed grains in 1974/75 is projected at about 182 million tons, 16% or 35 million tons below 1973/74. However, disappearance would be about 7 million tons more than production, pointing to a further decline in carryout stocks. The expected carryout of about 14-15 million tons next year can be considered as a minimum volume for the market's pipeline. The prospective size of the 1975 feed grain crop next summer will also influence the carryout from the 1974/75 season. Prospects for a "whopping" big crop in 1975 would tend to support the "rock-bottom" carryout as owners of grain would want to avoid being caught with a large inventory in a declining market. Prospects for another crop below needs would tend to encourage speculative holding of old grain; therefore, the carryover could be a little higher than indicated—although still tight.

No Set Aside Requirements for 1975 Crops

On August 26, the USDA announced there will be no set-aside acreage requirements on plantings for 1975 crops of feed grains, wheat, and upland cotton—the same as for these 1974 crops. Other Government program provisions for 1975 will be announced later when prospects for this year's production of these crops and their utlization become firmer.

CORN

Acreage, Production and Supply Prospects

Farmers planted almost 77½ million acres to corn this year, 8% above 1973. However, acreage harvested for grain is expected to be low relative to plantings as considerably more acreage may be abandoned or cut for roughage than usual because of the July drought. As a rule of thumb, the difference between acreage planted and that harvested for grain is approximately 10 million acres. This year, the difference is about 13½ million acres, suggesting that around 3½ million acres more than usual will not be harvested for grain. This is an even greater difference than during the short crop years of 1947 and 1970.

The August 1 forecast of yield for this year's corn crop was 78 bushels per harvested acre, some 14 bushels below last year, and 19 below the record of 1972.

The Statistical Reporting Service's August 1 yield forecast indicated a corn crop of 4.97 billion bushels, well below the 5.6 billion crops in each of the past 3 years. This crop plus the October 1 expected carryover of 0.4 billion bushels would provide a 1974/75 supply of 5.4 billion bushels, a billion less than a year earlier and 1.3 billion below the record supply in 1972/73.

The persistent rain that kept farmers in the Corn Belt out of their fields from mid-May to mid-June may have prevented a total disaster for the U.S. corn crop. Early planted corn accompanied by normal weather tends to produce the highest yields. For this reason many farmers like to get as much of their crop planted as soon as possible. But others like to stagger or stretch seeding to minimize the possibility of total crop failure because of spotty rainfall patterns. Over half (an above normal pace) of the corn crop was seeded by mid-May when the rains began. If the rain had not come and virtually all the crop had been planted by June 1, considerably more of the crop would have been damaged by hot dry weather in July. Apparently the earlier planted corn has been hardest hit because the hot dry weather occurred when it was in the pollinating stage. The rainy spell was beneficial for late June and early July development. However, a significant volume of acreage was planted so late that risk of damage from autumn frosts is increased.

Even though much of the Midwest was hard hit by drought, parts of the area were getting shower activity. Rainfall data for a limited number of cities in 6 Corn Belt States did not reflect the full impact of the drought. Normal July rainfall for the stations reporting in these States is about 3 to 3½ inches. The average accumulation of moisture for July was about 1½ inches, or about 2 inches below normal. June rainfall of about 5½ inches was a little above normal. But the heat wave during July resulted in considerable evaporation of moisture.

Small Supply Restricts Use

With prospects for an extremely tight supply, total use of corn in 1974/75 will probably be about 5 or 5.1 billion bushels, well below the 5.9 to 6.0 billion bushels used in 1972/73 and 1973/74.

Domestic feed use for 1974/75 is forecast at 3.7 to 3.8 billion bushels, some 10 to 14% under the previous

Corn acreage and yields[1]

State and Region	1973			1974		
	Acreage		Yield per acre	Acreage		Yield per acre
	Planted	Harvested for grain		Planted	Harvested for grain	
	Mil. acres		*Bu.*	*Mil. acres*		*Bu.*
Ohio	3.3	3.0	79.0	4.0	3.7	76.0
Indiana	5.4	5.2	102.0	5.8	5.5	83.0
Illinois	10.0	9.7	103.0	10.5	10.2	86.0
Michigan	2.1	1.7	79.0	2.3	1.8	75.0
Wisconsin	3.2	2.1	83.0	3.5	2.3	86.0
East N. Central	24.0	21.7	95.7	26.1	23.5	82.5
Minnesota	6.2	5.5	93.0	6.9	6.2	88.0
Iowa	11.8	11.2	108.0	12.9	11.8	85.0
Missouri	2.8	2.6	88.0	3.1	2.8	62.0
N. Dakota	.5	.2	56.0	.5	.1	55.0
S. Dakota	3.8	2.6	54.0	3.6	2.3	33.0
Nebraska	6.4	5.8	93.0	6.8	4.6	76.0
Kansas	1.9	1.5	100.0	2.1	1.2	80.0
West N. Central	33.4	29.4	95.1	35.9	29.0	77.5
South Central	3.8	3.0	75.1	4.0	3.5	66.4
Other	10.4	7.7	70.6	11.4	7.8	70.2
Total U.S.	71.6	61.8	91.4	77.4	63.8	77.8

[1] Source: Crop Production, SRS, August 1974.

2 years. This sort of cutback in domestic feeding means the industry will have to be more efficient in its feeding practices than in the past 2 years. Meat output in 1972/73 and in 1973/74 was low relative to consumption of feed grains. Basically, livestock and broiler producers were feeding animals to heavier weights than previously. This practice requires the use of more feed per unit of weight gain.

Only a few years ago, in 1969/70, grain consuming animal units totaled 78 million (we are expecting fewer in 1974/75) and feed supplies were adequate and reasonably priced. During that year, corn feeding totaled 3.8 billion bushels, about the same as projected for 1974/75. Other feed grains fed in 1969/70 totaled 36 million tons, compared with only about 30 million projected for 1974/75. Thus, with a lot of belt tightening the industry will get by with the smaller supply, but it would require a return to more efficient feeding. Recent weights of hogs, cattle, and broilers being marketed are still running well above normal, but there are some signs of declining weights.

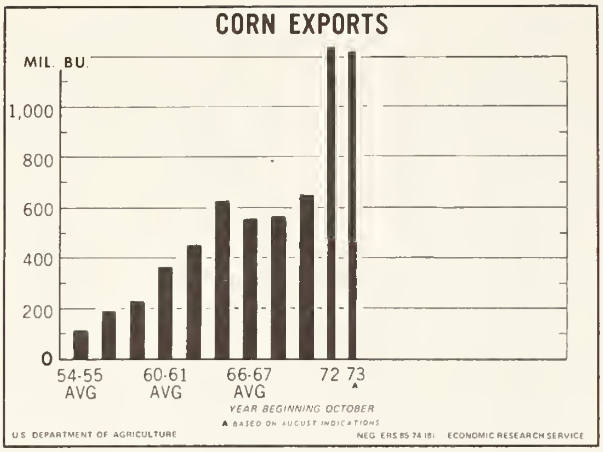
Food Use to Increase

According to trade sources, some soft drink manufacturers are planning to start blending corn-based sweeteners with sugar in some of their products. This decision is an effort to trim the soaring costs of sugar. It means that there may be limited use of high-fructose corn syrup in some products of the beverage industry since corn sweeteners are priced less than sugar. This could be the start of a trend, but the additional amounts of corn used would be quite small. Much will depend on long-run developments in the relationship between prices of corn sweeteners and sugar. The estimated volume of corn used for food and seed in 1974/75 has been increased by 10 to 20 million bushels over 1973/74 to allow for the increased use in corn sweeteners.

Supply Also Restricts Exports

U.S. corn exports in 1974/75 may total only 750 to 900 million bushels compared with the earlier USDA projection of 1.2 billion, which was associated with the much larger crop expected then. World demand for feed grains is relatively strong as illustrated by the sharp increase in export sales since late July when U.S. crop prospects began to deteriorate. However, the small domestic supply and high prices will be a major factor limiting the flow of U.S. corn to overseas markets. The volume of corn exported will be related to the level of domestic use since the 340-360 million bushel carryover on October 1, 1975 probably would be a bare minimum.

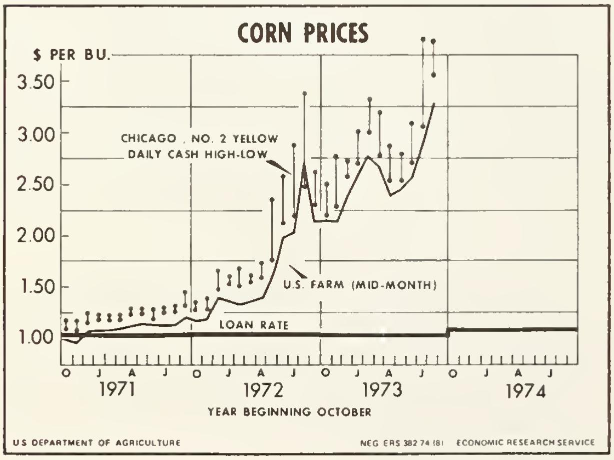
U.S. corn exports for 1973/74 are heading toward 1,225 million bushels, or close to the preceding year's record of 1,258 million. Inspections for export show that weekly shipments are beginning to taper off. For the week ended August 9 only 13 million bushels were inspected for export, the lowest weekly movement this season.



High Prices to Continue

With the reality of a small domestic corn crop becoming more certain, continuation of high prices for the next several months can be expected. The general level of prices for 1974/75 likely will average well above the record high mark of this century set in 1973/74. The May issue of the *Feed Situation* indicated that corn prices could drop below $2 at harvesttime. But that was based on a U.S. crop of around 6.7 billion bushels and normal grain production in other countries. Presently, fairly normal sized grain crops appear in the making in other countries. These large crops (whether food or feed grain) plus the large world supply of meat potentially overhanging the market should help to prevent a price runaway in 1974/75.

The 1973/74 season average price of corn at Chicago will average about $3.00 per bushel, $1.00 more than in 1972/73; the national average farm price will be $2.60 or $1.00 more. Near-term price movements will continue strong. August prices at Chicago ranged between $3.50 and $3.80.



Corn prices

Month	Farm, mid-month		Chicago No. 2 Yellow, daily cash			
	1972/73	1973/74	1972/73		1973/74	
	Dollars per bushel					
			Low	High	Low	High
Oct.	1.19	2.17	1.28	1.36	2.22	2.55
Nov.	1.20	2.18	**1.27**	1.42	2.30	2.79
Dec.	1.42	2.39	1.48	1.66	2.59	2.75
Jan.	1.39	2.59	1.54	1.62	2.72	3.02
Feb.	1.35	2.76	1.51	1.68	3.01	3.33
Mar.	1.37	2.68	1.56	1.65	2.79	3.22
Apr.	1.42	2.41	1.60	1.74	2.53	2.88
May	1.61	2.45	1.76	2.36	2.55	2.80
June	1.99	2.57	2.12	2.59	2.72	3.10
July	2.03	2.91	2.18	2.88	3.06	3.90
Aug.	2.68	3.37	2.48	**3.40**	3.43	3.77
Sept.	2.15		2.30	2.64		

Figures in bold type denote annual lows and highs.

GRAIN SORGHUM

Smallest Supply Since Introduction of Hybrid Seed

Farmers this year planted 18 million acres to grain sorghum, 1½ million fewer than last year and 1.2 million fewer than they intended. The above normal, hot, dry weather has cut the expected national average yield to about 46 bushels per acre, down sharply from the 59 and 60 bushels in each of the past 2 years. All major sorghum producing States likely will have lower yields. In Texas, the largest milo producing State, yields are forecast to fall about 10 bushels; yields in Kansas and Nebraska are indicated to plummet by over 20 bushels.

The indicated acreage and yield would give a sorghum crop of around 619 million bushels, down a third from last year's record harvest. A crop of this size and the small 60-million-bushel carryover expected this fall would give a supply for 1974/75 of around 680 million bushels, well under the 1973/74 supply of a billion bushels and the smallest supply since 1957/58 when hybrid seed was introduced.

Crop Less Than Use in 1974/75

All the 1974 sorghum crop plus part of the carryover of old grain likely will be used in 1974/75. Cattle on feed in the western States which produce and use most of the sorghum crop are down sharply, implying that less sorghum will be needed for feedlot rations. But the record number of cattle being held outside feedlots will increase the requirements for supplemental grain feeding—especially this winter when ranges are less productive. Unusually heavy wheat feeding may result from the short sorghum supplies. Roughage salvaged from drought-stricken

Cattle on feed in selected Western States

State	July 1, 1974	Change from—	
		July 1, 1973	April 1, 1974
	1,000 head	*Percent*	*Percent*
California	961	-18	0
Arizona	476	-17	-15
New Mexico	190	-22	-19
Texas	1,777	-24	-20
Oklahoma	231	-20	-20
Kansas	820	-33	-24
Nebraska	1,120	-24	-19
Colorado	672	-29	-22
Total or average ..	6,247	-25	-18

U.S. sorghum exports by country of destination

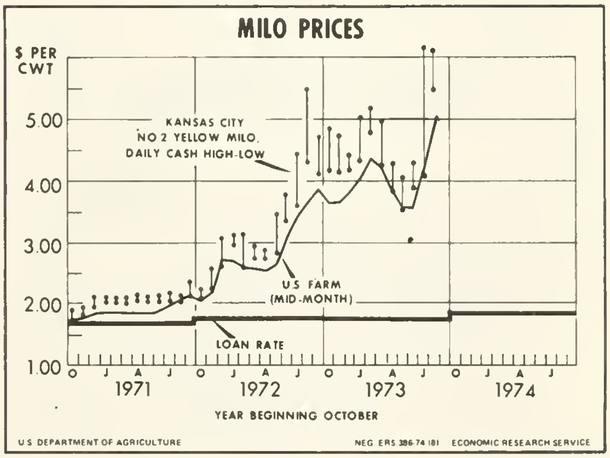
Country	October-September		October-July
	1971/72	1972/73	1973/74
	Million bushel	*Million bushel*	*Million bushel*
Japan	68.1	107.1	101.8
Israel	19.9	27.4	17.3
Venezuela	12.5	13.1	15.1
Mexico	6.6	4.2	7.8
Netherlands	5.2	5.3	16.8
India	.3	27.5	12.0
Other	10.3	27.6	27.0
Total	122.9	212.2	197.8

crops may be in fairly good supply but probably will be of low feed value.

Sorghum exports in 1974/75 are projected to drop sharply because of the restricted supply and may be in the area of 80 to 120 million bushels. Export sales of U.S. exports for 1974/75 have soared from 27 million bushels in late July to 127 million as of August 18. About a fourth of these sales were optional origin meaning that other countries likely will help meet exporter commitments. Exports during the current season likely will total about 225 million bushels. Prices of sorghum at Gulf ports in recent months have been low in relation to corn, but are moving back to near the norm of 88-90% of corn.

Prices to Continue Strong

Prices of milo at Kansas City soared to over $6.00 per cwt. in August (the highest ever) in response to the tight supply situation in the feed complex. Milo at Fort Worth (traditionally above the K.C. market) reached $6.50 per cwt. These prices are about 75¢ more than a year ago when feed grains were making their historic rise. Prices will continue very strong with changes parallel to corn.



Grain sorghum and corn prices at Gulf ports[1]

Year beginning October	Grain sorghum	Corn	% of Corn
	Dol. per cwt.	*Dol. per cwt.*	*Pct.*
Average 1963-72 ...	2.43	2.62	93
1973			
July	4.52	4.96	91
July-Sept.	4.81	5.12	94
Oct.-Dec.	4.91	4.98	99
1974			
Jan.-Mar.	5.33	5.77	92
Apr.-June	4.41	5.21	85
July	5.38	6.16	87
Aug. 22nd	5.80	6.62	88

[1] No. 2 yellow spot basis, f.o.b. vessel, for prompt or 30-day shipment.

Milo prices

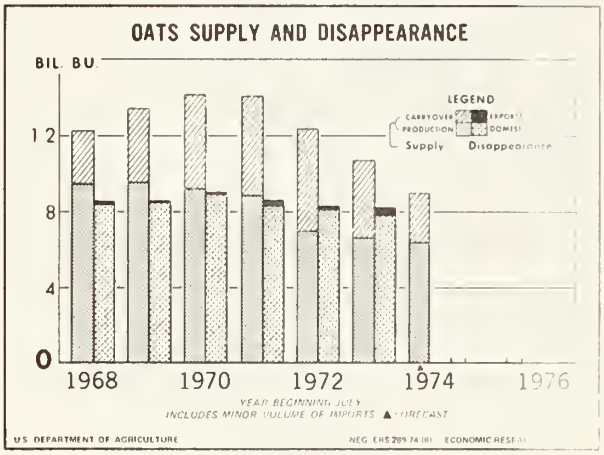
Month	Farm, mid-month		Kansas City No. 2 Yellow. daily cash			
	1972/73	1973/74	1972/73		1973/74	
	Dollars per cwt.					
			Low	High	Low	High
Oct.	2.09	3.65	**2.12**	2.26	4.15	4.85
Nov.	2.19	3.66	2.26	2.60	4.15	4.70
Dec.	2.72	3.83	2.60	3.08	4.20	4.42
Jan.	2.72	4.03	2.98	3.14	4.33	5.05
Feb.	2.60	4.38	2.60	3.14	4.80	5.20
Mar.	2.60	4.25	2.74	2.98	4.28	5.00
Apr.	2.56	3.78	2.76	2.89	3.80	4.30
May	2.66	3.59	2.82	3.50	3.55	4.05
June	3.10	3.59	3.35	3.80	3.90	4.30
July	3.46	4.15	3.58	4.45	4.10	6.20
Aug.	3.64	5.07	4.25	**5.50**	5.30	6.15
Sept.	3.87		4.10	4.65		

Figures in bold type denote annual lows and highs.

OATS

The 1974 oat crop is forecast at 638 million bushels, nearly 4% below 1973. The reduction is due to reduced acreage for harvest; the expected yield is 47 bushels per acre, the same as in 1973. The trend to smaller oat production is continuing. The 1974 crop will be the smallest in this century except for the drought year of 1934 when yield per harvested acre dropped to 18.5 bushels.

The carryover stock of oats on July 1 this year were down to 255 million bushels. The 1974 crop of 638 million bushels and imports estimated at 2 million bushels would provide an oat supply of 895 million bushels for 1974/75, 17% smaller than in 1973/74. Use of oats for food, industry and seed in 1974/75 is projected about the same as in 1973/74 but use for feed is expected to be a little smaller. Exports are projected at 10-25 million bushels, down from 58 million in 1973/74. Utilization at these levels would pull carryover stocks next June 30 even lower, to 130-140 million bushels.



U.S. oat exports by country of destination

Country	July-June		
	1971/72	1972/73	1973/74
	Million bushel	*Million bushel*	*Million bushel*
USSR	21.4	2.5	—
Germany, West	—	6.3	21.3
Japan	.2	4.3	1.6
Italy	—	3.3	3.8
Poland	—	—	5.7
Netherlands	—	1.1	2.8
Switzerland	.3	.4	2.7
Unidentified	—	—	14.4
Other	0.8	1.7	3.9
Total	22.7	19.6	56.7

Oat Prices Advance Sharply

Prices received by farmers for oats averaged $1.16 per bushel in 1973/74, 60% higher than the year before. This was a somewhat larger advance relative to the increase in prices received by farmers for corn in 1973/74. No. 2 extra heavy white oats at Minneapolis were around $1.70 per bushel in early August. Changes in oat prices this spring and summer have closely paralleled those of corn. Daily oat prices at Minneapolis were varying from 47 to 51% of prices of No. 2 yellow corn at Chicago. Prices are expected to rise about in line with expected increases in prices of corn and other feed grains.

Oat prices

Month	Farm, mid-month		Minneapolis No. 2 White, extra heavy, daily cash			
	1973/74	1974/75	1973/74		1974/75	
	Cents per bushel					
			Low	High	Low	High
July	86	137	**80**	108	144	138
Aug.	113	155	108	150	162	183
Sept.	109		114	140		
Oct.	114		120	137		
Nov.	113		123	128		
Dec.	120		125	142		
Jan.	132		136	168		
Feb.	144		163	**173**		
Mar.	140		140	162		
Apr.	124		116	140		
May	127		127	145		
June	130		136	148		

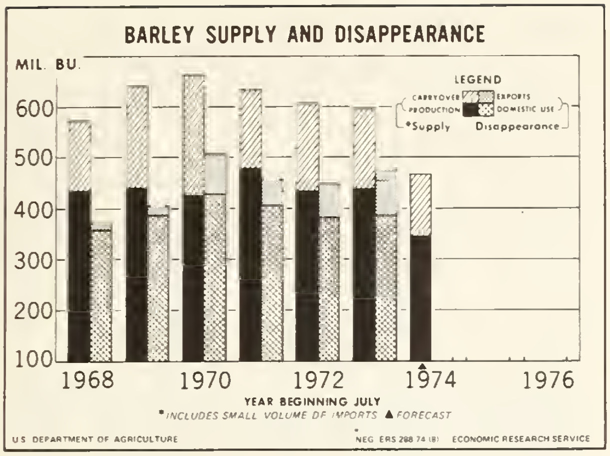
Figures in bold type denote annual lows and highs.

BARLEY

The 1974 barley crop was forecast at 333 million bushels, more than a fifth below 1973. Beginning stocks (July 1) were 120 million bushels, down from 163 million the year before. Barley imports in 1974/75 are projected at 15 million bushels up from 9 million in 1973/74. Production and imports at these levels would provide a supply of 468 million bushels for 1974/75, down more than a fifth from 1973/74.

Use of barley for food, industry and seed, which acccounts for less than half of domestic use, is expected to run between 155 and 157 million bushels in 1974/75, slightly more than the year before, but use for feed is expected to be a little smaller. Exports, always small in relation to domestic disappearance, are expected to be less than in 1973/74. Carryover stocks at the end of 1974/75 will be down again.

Prices received by farmers for barley averaged $2.13 per bushel in 1973/74, three-fourths higher than the year before. In July, the first month in the 1974/75 marketing year, prices received for barley averaged $2.33 per bushel, up 47% from a year earlier.



U.S. barley exports by country of destination

Country	July-June		
	1971/72	1972/73	1973/74
	Million bushel	*Million bushel*	*Million bushel*
USSR	27.4	7.3	.6
Canada	7.7	4.9	—
Korea, Rep. of	7.7	22.0	16.4
Czechoslovakia	1.5	.7	—
Germany, West	—	5.2	7.0
Japan	—	4.2	2.1
Poland	.7	2.7	5.1
Cyprus	—	2.0	2.9
Mexico	.2	1.3	7.6
China (Taiwan)	—	.5	4.4
Greece	—	—	4.6
Italy	—	1.4	3.7
Unidentified	—	6.3	25.7
Other	2.9	3.9	5.2
Total	48.1	62.4	85.3

Cash prices of No. 3 or better feed barley at Minneapolis were around $2.70 per bushel in early August. In recent weeks, Minneapolis barley prices have ranged from two-thirds to three-fourths of prices of No. 2 yellow corn at Chicago.

Barley prices

Month	Farm, mid-month		Minneapolis, No. 3 or better daily cash			
	1973/74	1974/75	1973/74		1974/75	
	Dollars per bushel					
			Low	High	Low	High
July	1.58	2.33	**1.49**	1.91	2.22	2.65
Aug.	2.10	2.78	1.83	2.30	2.57	2.96
Sept.	2.16		2.00	2.23		
Oct.	2.23		1.92	2.23		
Nov.	2.10		1.65	2.00		
Dec.	2.19		1.92	2.22		
Jan.	2.32		2.18	2.46		
Feb.	2.52		2.45	**2.80**		
Mar.	2.61		2.10	2.60		
Apr.	2.15		1.55	2.05		
May	2.19		1.90	2.18		
June	2.19		2.18	2.30		

Figures in bold type denotes annual lows and highs.

HIGH-PROTEIN FEED

1974/75 Supplies Likely Smaller

Smaller planted acreage coupled with lower yields will produce a smaller harvest of all oilseeds. Output of soybeans, cottonseed, peanuts, and flaxseed combined is forecast at 47 million tons, 14% less than in 1973. Even though carryover going into the 1974/75 season will be larger, the sizable crop reductions indicate a smaller meal supply. Production of soybeans, which account for about two-thirds of HPF usage is forecast at 1,314 million bushels, 16% below last year's record. As of August 1, this year's indicated soybean yield was 25.1 bushels per acre or 2.7 bushels below 1973. Late plantings and dry weather have lowered yield prospects below last year in nearly all major producing States. Soybean development is behind normal throughout most of the Corn Belt. Rain in early August may have helped the crop, but crop development remains very uncertain this year. Soybean acreage for harvest as beans is estimated at 52.4 million acres, over 7% below the 1973 acreage. The reduced supply of soybeans for 1974/75 will likely result in some reduction in the crush, exports, and carryover.

Protein Feeding May Show Little Change in 1974/75

Domestic use of protein feed (soybean meal basis) in 1974/75 is forecast at 20 million tons, about the same as this season. This year's forecast places protein feeding (excluding nonprotein nitrogen) slightly above the peak levels during the 3 feeding years 1969/70-1971/72.

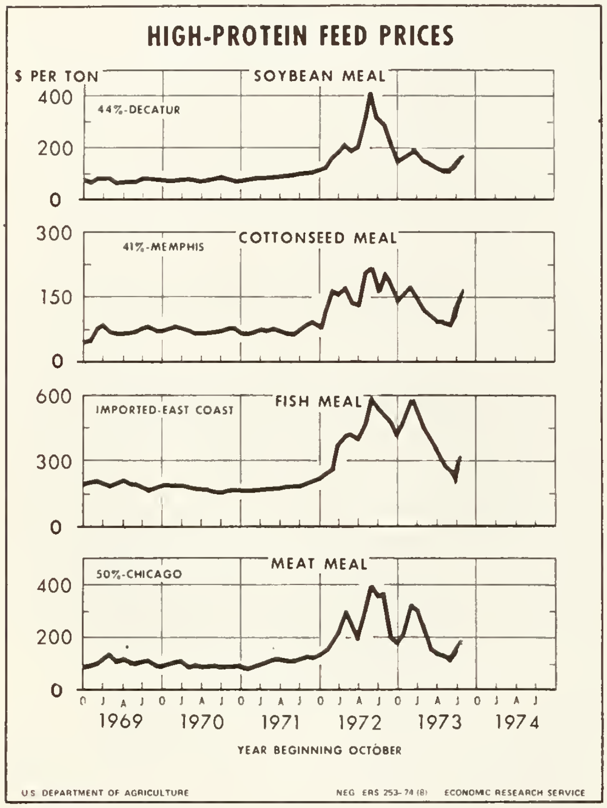
This season's adequate protein feed supplies are lower priced than in 1972/73 and the increase of 10% in consumption over the reduced disappearance of 1972/73 indicates that feeders are responding to lower protein feed prices. To illustrate, the price per pound of soybean meal in late June was less than the price of a pound of corn. Typically soybean meal sells for around 1.6 times the price of corn.

Soybean Meal Domestic Use Increased

Domestic use of soybean meal in the 1974/75 feeding season is now forecast at 13.5 million tons, a little below 1973/74.

The oilseed meal picture is important because it primarily influences the price of other millfeed ingredients. Prices of soybean meal have fallen sharply since early winter. Prices of other processed feed ingredients also have dropped sharply.

Prices of urea have risen sharply in relation to prices of protein supplements from crop sources, so least-cost feed rations are tending to call for more protein from crops. Therefore, some cattle feeders probably will use a larger portion than usual of soybean and cottonseed meals as well as other crop proteins in their rations during 1974/75.



Improvement in Fishmeal Supplies

The world fishmeal supply situation has improved. Peruvian anchovies appear to be making a comeback and fishmeal production in calendar year 1974 is estimated at 1.2 million metric tons compared with 425,000 tons in 1973 and the peak of 2¾ million in 1970. During January-May, Peru's fishmeal production was about 540,000 tons, up nearly 46% from the same 5 months in 1973. Monthly output in Peru is expected to recover further during the September-December period.

U.S. fishmeal production in 1974 is expected to be slightly larger than in 1973. It will be about 280,000 to 290,000 tons, compared to 279,400 tons in 1973.

Cottonseed Crushings Level

Cottonseed crushings are running somewhat below earlier estimates and prospective disappearance of cottonseed meal from processors has been lowered about 100,000 tons to near last year's 2.2 million, because the 1973 cottonseed crop was revised downward. Demand for cottonseed meal appears to be sluggish despite tight supplies and high prices of urea—a major competitor of cottonseed meal in the South,.

Meat Meal and Tankage Output Boosted

Production of meat meal and tankage in 1973/74 probably will be up modestly, reflecting the increase in 1974 meat output. The production of meat meal and tankage has been quite stable for several years as more meat byproducts are being sold by slaughterers to pet food manufacturers.

Meat meal so far in 1973/74 has averaged $194 per ton (Chicago basis), 22% below a year ago. Prices in July were running about $160 per ton, much weaker than levels last winter. The tankage and meat meal market usually follows soybean meal but this year has been higher relative to soybean meal due to phosphorous content of tankage and meat meals, a feed mineral in short supply.

HAY

August 1 indications were for 1974 production of 119.9 million tons of hay, 11% less than 1973 production, due in part to reduced acreage for harvest from 62.2 million to 60.5 million acres but mostly to lower yields as a result of drought. Production is down throughout the country. In the West North Central States, the region that accounts for close to a third of the total production, is down by 14%, and the South Central region, down about a fifth.

Because of large increases in the number of roughage consuming animals, the hay supply is tighter than indicated by the drop in production. The hay supply per roughage consuming animal unit is only 1.42 tons. Since 1965, the supply has ranged between 1.60 and 1.70 tons per animal unit. Also it is probable that more hay has been used so far this year than last because of deterioration of pastures in the central part of the country that required widespread supplemental feeding of livestock much earlier than usual. Early deterioration of pastures also contributed to pulling larger than usual numbers of cattle directly off ranges for slaughter this year.

The tight hay supply is reflected in much higher prices in 1974. Prices received by farmers for hay in July averaged $48.20 per ton, up one-third from a year earlier. Hay prices will continue very strong throughout 1974/75.

Table 2 .--Grain sorghum and feed grains (total): Acreage, supply, distribution, and prices 1969-74

Item	Grain Sorghum						Feed grains (corn, sorghum, oats and barley)					
	1969/70	1970/71	1971/72	1972/73 prel.	1973/74 est.	1974/75 fore- cast 1/	1969/70	1970/71	1971/72	1972/73 prel.	1973/74 est.	1974/75 fore- cast 1/
Acreage (Mil.)												
Base or allotment	24.7	24.7	24.7	23.7	23.9	---	133.0	133.0	132.9	129.8	130.0	89.0
Set-aside	7.5	7.4	4.1	7.3	2.0	0	39.1	37.4	18.2	36.6	9.4	0
Planted	17.2	17.0	20.8	17.3	19.3	17.7	115.3	118.8	128.0	115.1	121.4	122.6
Harvested for grain	13.4	13.6	16.3	13.4	15.9	13.6	95.5	99.3	106.3	94.0	102.3	99.5
			Bushels						Tons			
Yield per acre	54.3	50.4	53.7	60.5	58.8	45.6	1.86	1.61	1.95	2.13	2.00	1.75
			Million bushels						Million short tons			
Supply												
Carryin 2/	287	244	90	142	73	61	50.2	48.6	33.2	48.4	32.4	20.6
Production	730	684	876	809	937	619	177.4	160.1	207.7	199.9	205.0	174.6
Imports	---	---	---	---	---	---	.4	.4	.5	.4	.3	.4
Total	1,017	928	966	951	1,010	680	228.0	209.1	241.4	248.7	237.7	195.6
Disappearance												
Feed	638	684	692	660	718	527-557	141.8	138.9	149.0	156.2	155.9	134.5-138.7
Food, Industry and Seed	9	10	9	6	6	8-8	16.4	16.3	16.7	17.0	17.5	17.8-18.2
Total domestic	647	694	701	666	724	535-565	158.2	155.2	165.7	173.2	173.4	152.3-156.9
Exports	126	144	123	212	225	120-80	21.2	20.7	27.3	43.1	43.7	29.7-23.8
Total	773	838	824	878	949	655-645	179.4	175.9	193.0	216.3	217.1	182.0-180.7
Carryout												
Government 3/	184	68	92	*13			27.8	19.0	30.5	**10.7		
"Free"	60	22	50	60			20.8	14.2	17.9	21.7		
Total	244	90	142	73	61	25-35	48.6	33.2	48.4	32.4	20.6	13.6-14.9
			Dollars per cwt.						1967=100			
Price support and season price												
National av. loan rate	1.61	1.61	1.73	1.79	1.79	1.88						
Support payment 4/	.28	.33	.31	0	0							
Received by farmers 5/	1.91	2.04	1.87	2.45	3.80		97	110	96	141	*** 2 18	
Kansas City No. 2 Yellow, milo	2.07	2.32	2.05	3.24	***4.55							

1/ Based on August indications. 2/ October 1 corn and sorghum; July 1 oats and barley. 3/ Under loan and uncommitted CCC inventory.

4/ Average earned on sorghum produced. 5/ Excludes support payment. * Includes 7 million bushels committed for sale by CCC. ** Includes 3.2 million tons committed for sale by CCC. *** October-August average.

Table 3.--Oats and barley: Acreage, supply, distribution, and prices, 1969-74

Item	OATS						BARLEY					
	1969/70	1970/71	1971/72	1972/73	1973/74 pre-liminary	1974/75 est. 1/	1969/70	1970/71	1971/72	1972/73	1973/74 pre-liminary	1974/75 est. 1/
Acreage (Mil.)												
Base or allotment	---------- Not in program ----------						18.0	18.0	18.0	18.0	17.3	---
Set-aside	0	0	0	0	0	0	4.4	3.9	0	4.9	1.4	0
Planted	23.6	24.5	22.0	20.2	19.2	18.3	10.3	10.5	11.1	10.6	11.3	9.2
Harvested for grain	18.0	18.6	15.8	13.5	14.1	13.6	9.6	9.7	10.2	9.7	10.5	8.5
Yield per acre (Bu.)	53.7	49.2	55.9	51.2	47.0	47.0	44.7	42.8	45.7	43.6	40.3	39.1
	Million bushels											
Supply												
Carryin (July 1)	397	499	517	541	410	255	201	236	155	175	163	120
Production	966	917	881	692	664	638	427	416	464	423	424	333
Imports	2	2	4	3	*	2	13	9	15	14	9	15
Total	1,347	1,418	1,402	1,236	1,074	895	641	661	634	612	596	468
Disappearance												
Feed	736	781	738	711	668	648-651	247	289	266	238	239	228-231
Food, Industry and Seed	107	102	99	93	93	92-94	141	139	142	145	149	155-157
Total domestic	843	883	837	804	761	740-745	388	428	408	383	388	383-388
Exports	5	18	24	22	58	25-10	17	78	51	66	88	30-15
Total	848	901	861	826	819	765-755	405	506	459	449	476	413-403
Carryout (June 30)												
Government **	296	359	372	221	97		116	90	79	50	4	
"Free"	203	158	169	189	158		120	65	96	113	116	
Total	499	517	541	410	255	130-140	236	155	175	163	120	55-65
	Dol. per bu.											
Price support and season price												
National av. loan rate	.63	.63	.54	.54	.54	.54	.83	.83	.86	.86	.86	.90
Support payment 2/	0	0	0	0	0		.06	.06	0	0	0	
Received by farmers 3/	.584	.623	.605	.725	1.16		.885	.973	.993	1.21	2.13	
Minneapolis ***	.64	.69	.66	.82	1.34		.98	1.11	1.04	1.21	2.10	

1/ Based on August indications. 2/ Average earned on all barley produced. 3/ Excludes support payment. * Less than 500,000 bushels. ** Under loan and owned by CCC on July 1, 1973, includes grain committed for sale by CCC and still carried as part of total inventory; in earlier years, included only grain not committed for sale. *** Oats No. 2 extra heavy white; barley No. 3 or better, feed.

Table 4 .--Feed grains: Supply and disappearance, quarterly

Item	1972/73					1973/74 (July-Sept. Estimated)				
	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Year	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Year
						Million bushels				
CORN										
Supply										
Stocks (beg.)	1,126	4,831	3,340	1,937	1,126	709	4,469	2,858	1,442	709
Production	5,573	---	---	---	5,573	5,643	---	---	---	5,643
Imports	1	1/	1/	1/	1	1	1/	1/	1/	1
Total	6,700	4,831	3,340	1,937	6,700	6,353	4,469	2,858	1,442	6,353
Disappearance										
Feed	1,516	1,089	962	743	4,310	1,464	1,165	941	695	4,265
Food, seed & ind.	96	100	118	109	423	100	108	115	112	435
Total domestic	1,612	1,189	1,080	852	[illegible]	1,564	1,273	1,056	807	4,700
Exports	257	302	323	376	1,258	320	338	360	207	1,225
Total disappearance	1,869	1,491	1,403	1,228	5,991	1,884	1,611	1,416	1,014	5,925
Stocks (end)	4,831	3,340	1,937	709	709	4,469	2,858	1,442	428	428
SORGHUM										
Supply										
Stocks (beg.)	142	621	363	200	142	73	648	383	179	73
Production	809	---	---	---	809	937	---	---	---	937
Imports	---	---	---	---	---	---	---	---	---	---
Total	951	621	363	200	951	1,010	648	383	179	1,010
Disappearance										
Feed	281	199	122	58	660	305	198	147	68	718
Food, seed & ind.	2	1	2	1	6	1	1	3	1	6
Total domestic	283	200	124	59	666	306	199	150	69	724
Exports	47	58	39	68	212	56	66	54	49	225
Total disappearance	330	258	163	127	878	362	265	204	118	949
Stocks (end)	621	363	200	73	73	648	383	179	61	61

Continued--

Table 4 .--Feed grains: Supply and disappearance, quarterly

Continued

Item	1972/73					1973/74 (Preliminary)				
	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	Year	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	Year
	Million bushels									
OATS										
Supply										
Stocks (beginning)	541	928	776	584	541	410	805	634	435	410
Production	692	---	---	---	692	664	---	---	---	664
Imports	1	1	1	1/	3	1/	1/	1/	1/	1/
Total	1,234	929	777	584	1,236	1,074	805	634	435	1,074
Disappearance										
Feed	290	138	170	113	711	239	138	177	114	668
Food, seed & industry	13	13	22	45	93	13	14	21	45	93
Total domestic	303	151	192	158	804	252	152	198	159	761
Exports	3	2	1	16	22	17	19	1	21	58
Total disappearance	306	153	193	174	826	269	171	199	180	819
Stocks (end)	928	776	584	410	410	805	634	435	255	255
BARLEY										
Supply										
Stocks (beginning)	175	454	362	258	175	163	424	322	216	163
Production	423	---	---	---	423	424	---	---	---	424
Imports	3	7	1/	4	14	1	4	1	3	9
Total	601	461	362	262	612	588	428	323	219	596
Disappearance										
Feed	101	56	52	29	238	98	50	54	37	239
Food, seed & industry	34	30	36	45	145	36	33	35	45	149
Total domestic	135	86	88	74	383	134	83	89	82	388
Exports	12	13	16	25	66	30	23	18	17	88
Total disappearance	147	99	104	99	449	164	106	107	99	476
Stocks (end)	454	362	258	163	163	424	322	216	120	120

Item	1972/73					1973/74 (July-Sept. Estimated)				
	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Mktg. year*	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Mktg. year*
	Million tons									
TOTAL FEED GRAINS										
Supply										
Stocks (beginning)	61.2	173.8	119.2	70.3	48.4	45.0	161.1	102.9	52.3	32.4
Production	178.7 2/	---	---	21.2 3/	199.9	184.2 2/	---	---	20.8 3/	205.0
Imports	.2	1/	.1	1/	.4	.1	1/	.1	.1	.3
Total	240.1	173.8	119.3	91.5	248.7	229.3	161.1	103.0	73.2	237.7
Disappearance										
Feed	53.7	40.1	32.8	28.9	156.2	53.0	41.9	33.3	27.7	155.9
Food, seed & industry	3.7	4.0	5.2	4.2	17.0	3.8	4.5	5.1	4.1	17.5
Total domestic	57.4	44.1	38.0	33.1	173.2	56.8	46.4	38.4	31.8	173.4
Exports	8.9	10.5	11.0	13.4	43.1	11.4	11.8	12.3	8.2	43.7
Total disappearance	66.3	54.6	49.0	46.5	216.3	68.2	58.2	50.7	40.0	217.1
Stocks (end)	173.8	119.2	70.3	45.0	32.4	161.1	102.9	52.3	33.2	20.6

1/ Less than 500,000 bushels.
2/ Corn and sorghum.
3/ Oats and barley.
* Year beginning October 1 for corn and sorghum; July 1 for oats and barley--quarterly totals will not necessarily add to marketing year totals.

Table 5.--Feed grain stocks: Government and "free" July 1, 1973 and 1974

Item	Corn		Grain sorghum		Oats		Barley		Total 4 feed grains	
	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
	Million bushels								Mil. tons	
Under loan										
Old grain resealed	288	*	12	0	103	2	36	1	10.9	.1
Under price support from preceding crop 1/	245	116	6	5	13	1	13	2	7.5	3.5
CCC-total inventory	95	56	18	4	146	94	1	1	5.5	3.2
Total Government	628	172	36	9	262	97	50	4	23.9	6.8
"Free"	1,309	1,270	164	170	148	158	113	116	46.4	45.5
Total stocks	1,937	1,442	200	179	410	255	163	120	70.3	52.3

1/ Total placed under loan, less repayments and deliveries to CCC thru June 30. * Less than 500,000 bushels.

Government stocks from operating reports of the Agricultural Stabilization and Conservation Service.

Table 6.--Feed grain stocks owned by Commodity Credit Corporation, 1969-74 1/
(1st of month)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	Million bushels											
	CORN											
1971	115	108	103	102	100	97	90	89	88	97	128	136
1972	145	149	152	153	154	155	154	154	157	156	153	140
1973	117	83	65	16	2/	2/	2	1	3	4	4	4
1974	4	4	4	4	4	3	2	1				
	GRAIN SORGHUM											
1971	142	131	126	120	111	92	78	69	66	63	61	59
1972	53	51	50	49	48	47	46	47	41	39	38	34
1973	27	21	16	14	13	10	9	5	5	5	5	5
1974	0	0	0	0	0	0	0	0				
	OATS											
1971	137	137	137	137	138	141	169	191	196	197	197	174
1972	174	173	173	173	172	174	178	183	179	173	171	168
1973	162	157	153	151	145	113	105	88	83	83	33	31
1974	31	30	29	28	27	25	24	22				
	BARLEY											
1971	23	23	23	23	23	23	29	34	36	36	35	0
1972	0	0	0	0	0	0	1	5	6	4	4	4
1973	3	3	3	3	2	1	1	1	1	1	1	1
1974	1	1	1	1	2/	2/	2/	0				

1/ CCC uncommitted inventory. 2/ Less than 500,000 bushels.

Compiled from reports of Agricultural Stabilization and Conservation Service, USDA.

Table 7.--Corn exports (grain only)
(Year beginning October)

Destination	1971/72	1972/73 (Prelim.)	1973/74 Exported Oct.-July 1973/74	1973/74 Aug.-Sept. 1974 bookings 1/	1973/74 Season Total
			Million bushels		
European Community	311	418	325	42	367
Other West Europe	68	112	157	11	168
East Europe	49	29	30	5	35
USSR	115	132	113	12	125
Japan	110	262	214	55	269
Republic of China (Taiwan)	9	20	12	--	12
Peoples Republic of China	0	48	57	1	58
India	1	*	--	--	--
Other Asia	27	49	28	5	33
Africa	15	13	27	2	29
Western Hemisphere	70	114	101	16	117
Subtotal	775	1,197	1,064	149	1,213
Other	11	45	39	2/36	75
Grand Total	786	1,242	1,103	3/186	3/1,289

1/ Based on undelivered reported sales. 2/ Unidentified destinations. 3/ May not add due to rounding. *Less than 500,000 bushels.

Table 8.--Feed grain exports for 1973/74 and 1974/75

Grain	Unit	Exported thru Aug. 16, 1974	1973/74 export bookings: thru Aug 18 (grain only): Identified destination	1973/74 export bookings: thru Aug 18 (grain only): Unidentified destination	Total exported and booked for export 1973/74	Export bookings as of Aug. 18 1/: 1973/74	Export bookings as of Aug. 18 1/: 1974/75
Corn, Oct.-Sept.	Mil. bu.	1,162	94	20	1,276	1,181	949
Sorghum, Oct.-Sept.	"	214	31	5	250	195	127
Oats, July-June	"	--	--	--	58	61	16
Barley, July-June	"	--	--	--	88	100	19
Total, marketing year	Mil. tons	--	--	--	45.8	41.9	30.8

1/ Total of known and unknown destination; excludes optional origin.

Table 9.--Feed Grains: World supply, distribution and U.S. corn price
(Corn, sorghum, oats, barley and rye)

Years	Production: USA	Production: Traditional exporting countries 1/	Production: Importing countries	Production: World	Beginning stocks 2/	World supply	Consumption: World	Consumption: Importing countries	Exports, July-June: World	Exports, July-June: USA	Corn price Gulf Ports Oct.-Sept.
	Million metric tons										Dol. per met. ton
1971/72	190	332	233	565	59	624	547	296	55	21	53
1972/73	182	319	230	549	77	626	569	308	70	36	85
1973/74 *	187	362	237	599	58	657	605	314	78	44	3/122
1974/75 **	159	337	244	581	4/52	633	585	--	59	21-27	
1975/76					48						

1/ USA, Canada, Australia, Argentina, South Africa, Thailand, France, USSR. 2/ Selected countries; excludes USSR, The Peoples Republic of China and parts of Europe which data are not available; stocks are beginning of marketing years for countries included. 3/ October 1973 - August 1974 average. 4/ Includes an estimated 8 million tons accumulated in the USSR during the 1973/74 season which assumes losses due to waste and spoilage did not exceed a normal proportion of the crops. * Preliminary. ** Projected.

Based largely on data from Foreign Agriculture Circular-Grains (FG 19-74), Foreign Agriculture Service, USDA, August 20, 1974.

Table 10.--U.S. corn exports, to selected countries, 1970-74

(Grain only)

Country	Year beginning October				
				October-July	
	1970/71	1971/72	1972/73	1972/73	1973/74
Traditional countries importing U.S. corn	Million Bushels				
Large Imports--"usually"					
Japan	116	111.	262	202	214
Netherlands	98	103	143	114	106
Italy	47	91	112	96	81
Germany, West	50	56	78	65	101
United Kingdom	51	54	64	54	32
Spain	1	38	67	56	95
Belgium-Luxembourg	26	15	15	13	5
Canada	9	10	1/ 32	28	36
Total	398	478	773	628	670
Medium Imports--"usually"					
Korea	15	17	17	16	14
Yugoslavia	8	16	2	2	2
Germany, East	7	12	--	--	6
Czechoslovakia	8	3	2/	--	1
Poland	9	11	24	20	16
Greece	9	7	22	16	40
Portugal	14	18	18	14	16
Total	70	84	83	68	95
Small Imports--"usually"					
Israel	4	3	5	4	6
Norway	0	2	4	4	2
Mexico	1	1	35	21	40
France	2	2/	1	1	2/
Lebanon	2/	5	2	2	2
Ireland	2/	1	5	5	--
Vietnam, South	2	4	4	2	1
India	1	1	2/	--	--
Egypt	1	5	6	3	14
Canary Islands	2	4	4	4	4
Philippines	1	6	2	2	4
Romania	2/	7	3	3	5
Singapore	2/	2/	4	4	--
Tanzania	1	4	2/	2/	4
Iran	1	1	5	2	1
Chile	2	8	6	6	5
Indonesia	2/	2/	7	7	2/
Republic of China (Taiwan)	1	9	20	16	12
Morocco	2/	2/	1	1	1
Total	19	61	114	87	101
New countries importing U.S. corn					
USSR	0	136	132	92	113
China, People's Republic of	0	0	48	41	57
Total	0	136	180	133	170
Other	14	27	92	77	67
Grand Total	501	786	1,242	993	1103

1/ For consumption within the country February and March 1973 imports estimated. 2/ Less than 500,000 bushels.

Table 11 .--Corn and grain sorghum: Average price received by farmers, United States, by months, 1967-74

Year beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average weighted by sales 1/
	Dollars												
	CORN, per bushel												
1967	1.04	.975	1.03	1.04	1.06	1.06	1.06	1.09	1.07	1.04	.986	1.01	1.03
1968	.962	1.04	1.05	1.08	1.09	1.09	1.12	1.19	1.18	1.18	1.18	1.15	1.08
1969	1.12	1.07	1.09	1.12	1.14	1.13	1.15	1.18	1.21	1.24	1.27	1.38	1.15
1970	1.34	1.29	1.36	1.42	1.43	1.43	1.41	1.38	1.43	1.36	1.19	1.11	1.33
1971	1.00	.974	1.08	1.09	1.09	1.10	1.13	1.15	1.13	1.14	1.15	1.22	1.08
1972	1.19	1.20	1.42	1.39	1.35	1.37	1.42	1.61	1.99	2.03	2.68	2.15	1.57
1973	2.17	2.18	2.39	2.59	2.76	2.68	2.41	2.45	2.57	2.91	3.37		2.60
	GRAIN SORGHUM, per 100 pounds												
1967	1.68	1.68	1.73	1.75	1.86	1.86	1.83	1.84	1.80	1.74	1.63	1.62	1.77
1968	1.60	1.68	1.72	1.74	1.77	1.76	1.76	1.81	1.81	1.82	1.92	1.97	1.70
1969	1.91	1.94	1.92	1.92	1.92	1.87	1.80	1.80	1.80	1.92	1.91	2.07	1.91
1970	2.02	2.02	2.04	2.10	2.16	2.17	2.19	2.33	2.43	2.37	2.27	2.01	2.04
1971	1.76	1.78	1.86	1.89	1.86	1.87	1.87	1.88	1.90	1.98	2.05	2.11	1.87
1972	2.09	2.19	2.72	2.72	2.60	2.60	2.56	2.66	3.10	3.46	3.64	3.87	2.45
1973	3.65	3.66	3.83	4.03	4.38	4.25	3.78	3.59	3.59	4.15	5.07		2/3.80

1/ Includes an allowance for unredeemed loans and purchase agreement deliveries valued at the average loan rate, by States. 2/ Preliminary.

Table 12 .--Oats and barley: Average price per bushel received by farmers, United States, by months, 1967-74

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average weighted by sales 1/
	Dollars												
	OATS												
1967	.669	.622	.638	.647	.651	.661	.667	.686	.687	.694	.692	.694	.659
1968	.606	.533	.561	.582	.603	.607	.625	.644	.621	.614	.624	.625	.598
1969	.580	.526	.546	.571	.578	.580	.587	.591	.581	.588	.602	.613	.584
1970	.580	.567	.610	.613	.632	.650	.668	.675	.658	.634	.660	.707	.623
1971	.626	.555	.574	.581	.595	.622	.638	.636	.638	.635	.638	.666	.605
1972	.655	.623	.645	.671	.700	.806	.811	.776	.771	.774	.796	.904	.725
1973	.855	1.13	1.09	1.14	1.13	1.20	1.32	1.44	1.40	1.24	1.27	1.30	2/1.16
1974	1.37	1.55											
	BARLEY												
1967	1.06	1.01	.983	.991	.981	.987	.993	.997	.972	.963	.986	.983	1.01
1968	.931	.814	.876	.889	.902	.918	.915	.925	.903	.922	.975	1.04	.921
1969	.953	.822	.858	.879	.898	.910	.894	.860	.831	.829	.898	.944	.885
1970	.902	.849	.906	.934	.964	1.02	1.02	1.03	1.02	1.03	1.12	1.15	.973
1971	1.07	.868	.919	.960	1.02	1.04	1.04	1.01	.983	.990	1.04	1.09	.993
1972	1.04	.956	1.07	1.17	1.21	1.32	1.42	1.34	1.31	1.31	1.39	1.55	1.21
1973	1.58	2.10	2.16	2.23	2.10	2.19	2.32	2.52	2.61	2.15	2.19	2.19	2/2.13
1974	2.33	2.78											

1/ Includes an allowance for unredeemed loans and purchase agreement deliveries valued at the average loan rate, by States.
2/ Preliminary.

Table 13.--Corn and grain sorghum: Cash prices at principal markets, 1965-74

Year beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Simple average
	Dollars												
	Corn, No. 2 Yellow, Chicago (per bushel)												
1965	1.23	1.16	1.24	1.32	1.31	1.28	1.28	1.31	1.33	1.43	1.49	1.46	1.32
1966	1.40	1.35	1.45	1.42	1.41	1.41	1.38	1.39	1.38	1.31	1.23	1.20	1.36
1967	1.17	1.10	1.14	1.13	1.15	1.17	1.16	1.19	1.15	1.13	1.08	1.09	1.14
1968	1.09	1.15	1.16	1.20	1.18	1.17	1.24	1.32	1.31	1.29	1.30	1.24	1.22
1969	1.21	1.18	1.19	1.26	1.26	1.24	1.28	1.32	1.37	1.38	1.46	1.52	1.31
1970	1.42	1.42	1.54	1.59	1.57	1.55	1.51	1.52	1.57	1.48	1.29	1.16	1.47
1971	1.10	1.07	1.22	1.22	1.21	1.22	1.26	1.28	1.25	1.29	1.29	1.40	1.23
1972	1.32	1.33	1.57	1.58	1.59	1.59	1.65	2.01	2.42	2.52	2.91	2.47	1.91
1973	2.37	2.50	2.68	2.90	3.13	2.99	2.69	2.70	2.93	3.35	3.63		
	Grain Sorghum, No. 2 Yellow, Kansas City (per cwt.)												
1965	1.86	1.87	1.92	1.97	2.00	1.95	1.95	1.95	1.96	2.11	2.13	2.10	1.98
1966	1.99	2.03	2.10	2.10	2.10	2.17	2.14	2.16	2.21	2.21	2.02	2.07	2.11
1967	1.90	1.89	1.93	2.03	2.10	2.10	2.07	2.04	1.97	1.91	1.76	1.77	1.96
1968	1.82	1.91	1.89	1.94	1.93	1.92	1.96	2.00	2.02	2.06	2.09	2.08	1.97
1969	2.08	2.06	2.05	2.06	2.04	1.96	2.00	1.96	2.03	2.09	2.18	2.29	2.07
1970	2.22	2.12	2.27	2.37	2.35	2.32	2.41	2.46	2.58	2.53	2.25	1.91	2.32
1971	1.80	1.91	2.06	2.06	2.07	2.07	2.09	2.08	2.09	2.11	2.05	2.21	2.09
1972	2.17	2.42	2.88	3.06	2.88	2.86	2.83	3.09	3.61	3.93	4.72	4.37	3.24
1973	4.37	4.31	4.37	4.71	4.99	4.64	4.03	3.84	3.99	5.02	5.79		

Source: Grain Market News, AMS, USDA

Table 14.--Oats and barley: Cash prices at principal markets, 1965-74

Year beginning July	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Simple average
	Dollars per bushel												
	Oats, No. 2 Extra Heavy White, Minneapolis												
1965	.65	.64	.65	.66	.67	.67	.69	.69	.68	.67	.69	.69	.67
1966	.70	.71	.74	.75	.74	.73	.73	.70	.72	.72	.72	.72	.72
1967	.70	.67	.68	.70	.70	.70	.72	.73	.73	.75	.74	.70	.71
1968	.65	.59	.63	.64	.67	.66	.68	.69	.66	.65	.65	.60	.65
1969	.60	.58	.61	.65	.66	.65	.65	.65	.63	.65	.66	.65	.64
1970	.62	.65	.70	.69	.72	.71	.72	.72	.67	.67	.71	.70	.69
1971	.63	.61	.64	.64	.66	.68	.69	.69	.66	.67	.70	.70	.66
1972	.69	.70	.71	.76	.81	.91	.88	.84	.84	.86	.91	.93	.82
1973	.93	1.28	1.32	1.26	1.25	1.32	1.55	1.66	1.52	1.26	1.35	1.43	1.34
1974	1.63	1.68											
	Barley, No. 3 or Better, Feed, Minneapolis												
1965	1.12	1.12	1.16	1.19	1.20	1.20	1.23	1.29	1.28	1.23	1.21	1.20	1.20
1966	1.20	1.19	1.22	1.23	1.23	1.22	1.21	1.18	1.20	1.21	1.24	1.23	1.21
1967	1.20	1.16	1.14	1.14	1.13	1.12	1.16	1.15	1.13	1.12	1.14	1.10	1.14
1968	.99	.92	1.02	1.04	1.02	.98	.99	1.02	1.02	1.04	1.06	1.02	1.01
1969	.98	.87	.94	.95	.96	.96	.95	.95	1.00	1.03	1.08	1.08	.98
1970	1.01	1.00	1.08	1.09	1.08	1.13	1.16	1.22	1.15	1.13	1.15	1.08	1.11
1971	1.00	.95	.99	1.04	1.04	1.04	1.07	1.07	1.05	1.06	1.08	1.05	1.04
1972	.96	.98	1.11	1.16	1.14	1.27	1.34	1.20	1.19	1.25	1.36	1.51	1.21
1973	1.67	2.12	2.12	2.02	1.80	2.12	2.34	2.51	2.32	1.74	2.10	2.36	2.10
1974	2.36	2.70											

Source: Grain Market News, AMS, USDA

Table 15--Cattle and hog feeding--costs and returns: Hypothetical examples 1/

	1972				1973				1974		
Purchased during	Jan.-Mar	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July
	Cents per pound										
	CATTLE FEEDING-CORN BELT										
Cost 2/											
Feeder steer	22.0	23.0	24.3	25.3	29.0	30.7	33.1	28.7	27.8	22.7	21.0
Feed	7.9	8.2	8.4	9.0	10.1	12.1	15.3	14.8	17.5	16.2	18.6
Other	4.5	4.6	4.6	4.9	5.2	5.4	5.7	5.6	5.8	5.8	5.8
Total	34.4	35.8	37.3	39.2	44.3	48.2	54.1	49.1	51.1	44.7	45.4
	1972		1973				1974				
Marketed during	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	July
Omaha price, Choice	36.2	35.1	43.2	46.0	49.0	40.2	45.4	39.5	45.0e	43.0e	44.0
Net return	1.8	-.7	5.9	6.8	4.7	-8.0	-8.7	-9.6	-6.1	-1.7	-1.4
	CATTLE FEEDING-TEXAS*										
Cost 2/											
Feeder steer	19.7	19.5	21.5	22.2	25.5	26.2	29.0	24.7	24.7	19.5	18.0
Feed	8.5	8.3	8.5	9.6	11.1	11.7	14.3	14.7	17.2	15.5	16.5
Other	3.5	3.5	3.5	3.7	3.9	4.0	4.3	4.3	4.5	4.4	4.4
Total	31.7	31.3	33.5	35.5	40.5	41.9	47.6	43.7	46.4	39.4	38.9
Good & Choice steers, Texas	34.3	34.6	41.9	44.2	47.0	39.5	45.4	39.2	46.0e	44.0e	43.8
Net return	2.6	3.3	8.4	8.7	6.5	-2.4	-2.2	-4.5	-.4	4.6	4.9
	HOG FEEDING-CORN BELT										
Cost 3/											
Feeder pig	11.8	11.9	12.2	12.2	15.0	15.3	18.8	16.3	15.2	10.9	9.8
Feed	9.5	10.0	10.4	11.4	13.8	17.3	20.6	18.4	20.5	18.1	20.6
Other	5.6	5.6	5.7	5.7	6.1	6.4	6.8	6.8	6.9	6.7	6.7
Total	26.9	27.5	28.3	29.3	34.9	39.0	46.2	41.5	42.6	35.7	37.1
	1972			1973				1974			
Marketed during	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	Oct.-Dec.	Jan.-Mar.	Apr.-June	July-Sept.	July
Barrows & gilts, 7 markets	25.0	28.8	28.9	35.6	36.7	49.0	41.0	38.4	28.0	35.0e	36.3
Net return	-1.9	1.3	.6	6.3	1.8	10.0	-5.2	-3.1	-14.6	-.7	-.8

1/ The data are intended to reflect the general direction of change in returns to commercial cattle and hog feeders in the period shown. They should not be construed as representing actual profits and losses of these industries since there is an extreme wide range in practices of buying, feeding and selling of cattle and hogs. Thus, profits (and losses too) will vary among individual feeding operations. Use of daily production costs and market prices instead of the quarterly averages shown would result in a wider range of net returns. 2/ Prorated on 1,050-pound market weight of animal for the quarter shown. 3/ Prorated on 220-pound market weight of animal for the quarter shown. Same time frame as cattle feeding.

e = estimated.

* Time frame for cost and returns is the same as cattle feeding in the Corn Belt.

Source of data: Livestock and Meat Situation, Econ. Res. Serv., USDA, July 1974.

Table 16.--Livestock animal units, and feeding rates, 1952-73

REVISED SERIES

Year beginning October	Grain consuming animal units	All Concentrates		Feed Grains	
		Total Fed	Fed per GCAU	Total Fed	Fed per GCAU
	Million	Mil. tons	Tons	Mil. tons	Tons
1952	72.7	114.0	1.57	88.0	1.21
1953	72.0	116.5	1.62	90.7	1.26
1954	73.7	116.2	1.58	90.9	1.23
1955	74.5	122.3	1.64	96.0	1.29
1956	72.9	119.8	1.64	93.5	1.28
1957	71.4	129.0	1.81	101.5	1.42
1958	73.9	139.5	1.89	110.5	1.50
1959	73.2	144.7	1.98	115.4	1.58
1960	73.8	149.8	2.03	120.0	1.63
1961	74.8	151.8	2.03	120.8	1.61
1962	76.7	150.3	1.96	119.2	1.55
1963	76.0	148.2	1.95	116.4	1.53
1964	74.3	145.4	1.96	111.7	1.50
1965	74.4	161.5	2.17	126.8	1.70
1966	77.2	162.1	2.10	127.0	1.65
1967	77.1	164.6	2.13	128.9	1.67
1968	78.4	173.9	2.22	135.5	1.73
1969	78.5	184.1	2.35	142.4	1.81
1970	80.0	180.4	2.26	138.3	1.73
1971	80.1	192.6	2.40	149.1	1.86
1972 1/	79.2	194.6	2.46	155.4	1.96
1973 2/	77.5	196.6	2.53	155.9	2.01

Year beginning October	High protein animal units	High protein feed		Roughage consuming animal units	Hay	
		Total fed	Fed per HPAU 3/		Total fed	Fed per RCAU
	Million	1,000 tons	Pounds	Million	Mil. tons	Tons
1952	96.1	11,509	240	84.5	106.5	1.26
1953	97.0	11,636	240	85.4	107.6	1.26
1954	97.1	11,593	239	85.9	108.2	1.26
1955	99.6	12,601	253	85.2	111.6	1.31
1956	97.1	13,212	272	82.3	107.0	1.30
1957	96.7	13,813	286	81.0	111.4	1.38
1958	99.5	15,102	304	82.5	120.8	1.46
1959	97.4	14,730	302	84.1	119.4	1.42
1960	99.2	15,487	312	84.5	112.1	1.33
1961	99.4	16,160	325	86.0	122.2	1.42
1962	100.9	16,588	329	88.0	116.7	1.33
1963	100.4	16,545	330	89.8	120.8	1.35
1964	98.8	16,542	335	89.8	122.0	1.36
1965	100.0	17,504	350	88.9	119.5	1.34
1966	103.4	17,761	344	88.2	121.7	1.38
1967	102.9	17,813	346	88.1	122.1	1.39
1968	104.1	18,686	359	87.5	125.4	1.43
1969	105.2	20,076	382	88.0	125.6	1.43
1970	107.6	20,085	373	89.9	128.9	1.43
1971	106.9	20,069	375	90.5	125.8	1.39
1972 1/	105.2	18,607	352	92.6	129.8	1.40
1973 2/	104.0	20,300	390	97.0	133.5	1.38

1/ Preliminary. 2/ Forecast based on August indications. 3/ In terms of 44% protein soybean meal equivalent.

Source: Livestock-Feed Relationships National and State, Statistical Bulletin No. 530, June 1974.

Table 17--Livestock, poultry and milk-feed price ratios, by months, 1968-74

Year beginning October	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Average
					HOG/CORN, U.S. Basis 1/								
1968	18.6	16.8	17.0	17.3	18.0	18.3	17.6	18.7	20.3	21.1	21.9	21.7	18.9
1969	22.1	23.4	23.7	23.6	24.1	22.7	20.7	19.5	19.2	19.2	17.0	14.3	20.8
1970	13.4	11.9	11.1	10.8	13.4	11.8	11.3	12.3	12.3	14.0	15.5	16.1	12.8
1971	19.5	19.3	18.2	20.9	23.5	21.2	19.9	21.7	22.7	24.1	24.3	23.0	21.5
1972	23.0	22.3	20.8	22.3	25.4	27.9	24.7	21.9	18.7	20.3	21.0	20.4	22.4
1973 2/	18.8	18.6	16.0	15.5	14.3	13.1	12.7	10.7	9.1	11.9	10.7		
					BEEF-STEER/CORN, Omaha 3/								
1968	22.6	22.9	23.5	22.8	22.8	23.5	24.0	25.4	26.6	25.2	24.6	24.3	24.0
1969	23.5	23.4	23.9	23.3	24.2	25.8	24.9	23.6	23.8	23.9	21.9	20.7	23.6
1970	21.2	20.1	18.5	19.7	21.8	21.8	22.3	22.3	21.6	22.6	26.4	28.0	22.2
1971	28.2	29.0	27.4	28.3	29.1	28.2	27.4	27.8	30.5	30.4	29.1	27.1	28.5
1972	27.1	24.9	24.6	26.8	27.6	30.2	29.5	24.9	20.7	20.6	19.6	19.0	24.6
1973 2/	17.7	16.5	15.5	17.4	15.5	15.2	16.4	15.7	13.7	13.4	13.1		
					MILK/FEED, U.S. Basis 4/								
1968	1.85	1.86	1.83	1.80	1.76	1.73	1.69	1.65	1.61	1.65	1.70	1.80	1.74
1969	1.85	1.87	1.85	1.82	1.78	1.74	1.73	1.68	1.66	1.68	1.69	1.75	1.76
1970	1.79	1.81	1.78	1.72	1.70	1.67	1.63	1.60	1.57	1.61	1.66	1.76	1.69
1971	1.84	1.88	1.85	1.82	1.81	1.78	1.72	1.69	1.66	1.68	1.72	1.75	1.77
1972	1.77	1.75	1.64	1.59	1.57	1.52	1.51	1.40	1.26	1.35	1.27	1.50	1.51
1973 2/	1.56	1.61	1.57	1.48	1.46	1.49	1.56	1.48	1.37	1.29	1.10		
					EGG/FEED, U.S. Basis 5/								
1968	9.6	9.9	10.7	10.9	9.9	10.1	9.3	7.6	7.8	9.4	8.9	10.0	9.5
1969	10.1	12.3	13.5	13.0	11.4	10.2	8.4	7.3	7.4	8.6	7.9	9.0	9.9
1970	7.4	8.3	8.8	8.0	7.4	7.3	7.3	6.7	6.4	6.4	7.1	7.1	7.4
1971	6.9	7.2	8.2	7.1	7.0	7.6	6.5	6.4	6.4	7.0	6.9	7.7	7.1
1972	6.9	8.0	8.5	9.0	7.3	7.7	7.9	6.9	6.4	7.1	8.3	8.6	7.7
1973 2/	8.2	8.6	8.5	8.8	8.4	7.5	7.0	6.1	5.8	6.1	5.6		
					BROILER/FEED, U.S. Basis 6/								
1968	2.9	3.0	3.1	3.2	3.4	3.4	3.3	3.4	3.5	3.8	3.6	3.4	3.3
1969	3.3	3.2	3.0	3.2	3.0	3.1	2.9	2.9	2.9	2.8	2.8	2.7	3.0
1970	2.5	2.6	2.4	2.6	2.8	2.7	2.7	2.9	3.0	3.2	2.9	2.9	2.8
1971	2.7	2.7	2.5	2.8	3.1	3.1	2.7	2.8	3.0	3.3	3.0	3.2	2.9
1972	2.9	2.7	2.6	2.9	3.1	3.5	3.9	3.3	2.9	3.4	4.0	3.5	3.2
1973 2/	2.9	2.5	2.3	2.5	2.8	2.7	2.7	2.7	2.5	2.6	2.3		
					TURKEY/FEED, U.S. Basis 7/								
1968	4.9	5.0	4.9	4.7	4.6	4.6	4.6	4.7	4.7	4.7	4.7	4.8	4.7
1969	5.0	5.3	5.6	5.4	5.4	5.6	5.5	5.2	5.0	4.8	4.7	4.6	5.2
1970	4.6	4.6	4.6	4.5	4.4	4.3	4.3	4.3	4.4	4.5	4.6	4.7	4.5
1971	4.7	4.8	5.1	4.9	4.8	4.7	4.6	4.5	4.5	4.4	4.4	4.3	4.6
1972	4.3	4.5	4.4	4.0	3.7	4.1	4.8	4.2	3.8	3.9	4.3	4.9	4.2
1973 2/	5.0	5.3		4.1	3.8	3.8	3.4	3.1	3.1	2.9	2.8		

1/ Number bushels of corn equal in value to 100 lbs. of hog liveweight. 2/ Preliminary. 3/ Based on price of beef-steers all grades sold out of first hands for slaughter and No. 2 Yellow corn. 4/ Pounds concentrate ration equal in value to one lb. whole milk. 5/ Number of lbs. of laying feed equal in value to one dozen eggs. 6/ Number of lbs. of broiler grower feed equal in value to one lb. broiler liveweight. 7/ Pounds of turkey grower feed equal in value to one lb. turkey liveweight.

Table 18--The soybean meal situation

Month	SOYBEANS											
	Crush			Exports			Stocks at processor's (1st of month)			Prices, monthly average, No.1 yellow, Decatur		
	Cumulative											
	1972/73	1973/74 1/	1974/75 2/	1972/73	1973/74 1/	1974/75 2/	1972/73	1973/74 1/	1974/75 2/	1972/73	1973/74 1/	1974/75 2/
	Million bushels									Dol. per bu.		
October	66.8	62.8		54.3	46.6		12.3	89.5		3.30	5.62	
November	137.5	134.5		115.5	121.0		91.3	125.6		3.61	5.57	
December	206.7	207.4		165.2	179.0		111.1	115.8		4.07	5.92	
January	277.3	282.0		212.9	227.6		117.4	117.0		4.46	6.19	
February	342.1	352.5		267.6	284.6		136.6	123.0		5.80	6.35	
March	406.5	428.2		326.7	344.5		133.3	112.3		6.15	6.29	
April	464.7	497.9		372.2	406.5		124.0	95.5		6.52	5.59	
May	526.4	569.6		413.2	450.0		107.9	81.5		8.94	5.47	
June	578.6	639.3		439.7	486.1		78.1	66.5		10.84	5.51	
July	623.1	711.1		453.9	513.2		58.5	57.0		8.47	6.98	
August	669.6			464.9			30.7			9.00	7.74	
September	711.0			472.4			13.5			6.10		
Season Total	711.0	820	790	472.4	550	525	60 3/	160	75 3/	6.44	630 4/	

Month	SOYBEAN MEAL											
	Production			Domestic use			Exports			Prices, monthly average, 44% Decatur		
	Cumulative											
	1972/73	1973/74 1/	1974/75 2/	1972/73	1973/74 1/	1974/75 2/	1972/73	1973/74 1/	1974/75 2/	1972/73	1973/74 1/	1974/75 2/
	Million tons									Dol. per bu.		
October	1.6	1.5		1.3	1.1		.3	.3		109	160	
November	3.2	3.2		2.5	2.3		.8	.8		123	167	
December	4.8	4.9		3.6	3.4		1.2	1.3		174	192	
January	6.5	6.6		4.7	4.8		1.8	1.8		188	172	
February	8.0	8.3		5.7	5.8		2.3	2.3		219	160	
March	9.5	10.1		6.7	7.0		2.8	2.9		200	147	
April	10.9	11.7		7.7	8.1		3.2	3.4		203	117	
May	12.3	13.4		8.7	9.3		3.6	3.9		315	109	
June	13.6	15.0		9.5	10.2		4.0	4.4		412	100	
July	14.6	16.7		10.4	11.6		4.2	4.8		311	138	
August	15.7			11.1			4.6			285	156	
September	16.7			12.0			4.7			208		
Season Total	16.7	19.8	18.7	12.0	13.7	13.5	4.7	5.8	5.3	229	147 4/	

1/ Preliminary. 2/ Season total based on August 1974 indications. 3/ Stocks in total positions.
4/ October-August average.

Table 19.--High-protein feed: Quantity available for feeding and high-protein animal units, 1966-73 1/

Year beginning October	Quantity available for feeding (in terms of 44% protein soybean meal equivalent)				High-protein animal units *	Per animal unit
	Oilseed meal	Animal protein	Grain protein	Total		
	1,000 tons				Million	Pounds
1966	12,561	3,950	1,250	17,761	103.4	344
1967	12,240	4,290	1,283	17,813	102.9	346
1968	13,520	3,868	1,298	18,686	104.1	359
1969	15,311	3,444	1,321	20,076	105.2	382
1970	15,227	3,539	1,319	20,085	107.6	373
1971	15,093	3,616	1,360	20,069	106.9	375
1972 2/	14,131	3,059	1,417	18,607	105.2	354
1973 3/	15,820	3,025	1,455	20,300	104.0	390

1/ Excludes urea and other nitrogenous compounds. 2/ Preliminary. 3/ Based on August 1974 indications.
* Revised series.

Table 20--Hay: Acreage, supply, disappearance per animal unit, United States, 1965-74

Year beginning May	Acreage harvested	Yield per harvested acre	Production	Carryover May 1	Total supply	Disappearance	Roughage consuming animal units*	Supply per animal unit	Disappearance per animal unit
	Mil. acres	Tons	Mil. tons				Million	Tons	
1965	67.5	1.86	125.6	16.6	142.2	119.5	88.9	1.60	1.34
1966	64.4	1.88	120.9	22.7	143.6	121.7	88.2	1.63	1.38
1967	63.3	1.98	125.1	21.9	147.0	122.1	88.1	1.67	1.39
1968	60.9	2.04	124.2	24.9	149.1	125.4	87.5	1.70	1.43
1969	59.7	2.11	126.0	23.7	149.7	125.6	88.0	1.70	1.43
1970	61.5	2.06	127.0	24.1	151.1	128.9	89.9	1.68	1.43
1971	61.4	2.10	129.1	22.2	151.3	125.8	90.5	1.67	1.39
1972	59.8	2.15	128.6	25.5	154.1	129.8	92.6	1.66	1.40
1973 1/	62.2	2.16	134.6	24.3	158.9	133.5	97.0	1.64	1.38
1974 2/	60.5	1.98	119.9	25.4	145.3		102.0	1.42	

1/ Preliminary. 2/ August 1 indications. * Revised series.

Table 21--Hay: Production by regions, 1965-74

Year	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States
	1,000 tons						
1965	10,974	22,497	43,471	5,232	15,081	28,355	125,610
1966	12,024	22,788	40,513	4,758	14,202	26,645	120,930
1967	12,295	22,182	41,321	5,363	15,449	28,524	125,134
1968	11,575	23,176	40,359	5,552	16,119	27,463	124,244
1969	11,410	22,822	42,679	5,520	14,809	28,786	126,026
1970	12,291	22,374	41,371	5,447	15,813	29,675	126,971
1971	12,102	22,374	43,095	5,594	16,151	29,803	129,119
1972	10,269	21,766	45,663	5,622	14,966	30,328	128,614
1973 1/	11,802	22,774	44,308	6,041	19,107	30,576	134,608
1974 2/	10,777	21,298	37,981	5,295	15,175	29,381	119,907

1/ Preliminary. 2/ August 1 indications.

Table 22--Hay: Average prices received by farmers, selected states 1/

State	Hay per ton				
	July				1974 as a percentage of--
	1971	1972	1973	1974	1973
	Dol. per ton				Pct
Pennsylvania	29.50	37.00	34.00	37.50	110
Wisconsin	19.00	25.00	27.50	29.00	105
Kansas	22.00	25.00	30.00	41.00	137
Georgia	31.50	38.00	35.00	37.00	106
Kentucky	28.50	32.00	34.00	35.50	104
Texas	31.50	35.50	32.50	45.50	140
Colorado	27.00	31.00	41.00	45.50	111
California	31.00	34.50	42.00	62.00	148
United States	24.10	30.50	36.20	48.20	133

1/ Weighted by sales.

RATES FOR STORING AND LOADING OUT GRAIN IN COMMERCIAL ELEVATORS, 1973/74

by

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ABSTRACT

The rates charged for storing and loading out grain at commercial grain elevators during 1973/74 are summarized by mode of transportation, type of facility, and type of grain. Rates charged to load out trucks were higher than other modes for all types of facilities while barge rates were the lowest. Rates for storage of various grains averaged 43.58, 46.04, and 54.26 thousandths of a cent per bushel per day for country, inland terminal and port terminal warehouses, respectively. These are equivalent to annual rates of 15.9, 16.8 and 19.8 cents per bushel. These data were developed through an analysis of rate schedules submitted by 6,479 grain warehouses, about 89 percent of all warehouses having a Uniform Grain Storage Agreement with Commodity Credit Corporation.

INTRODUCTION

Background

The Commodity Credit Corporation (CCC) amended the Uniform Grain Storage Agreement (UGSA) on July 1, 1973, through supplement CCC-25-2 which specified the rates which CCC would pay warehousemen for the services of handling and storing grain owned by the Government during the 1973/74 fiscal year (table 1). This supplement requested that the warehouseman supply the rates which would be charged for the services of loadout and storage to third parties to whom CCC had sold grain stored in the warehouse.

To assist in determining the level of rates paid under the UGSA, the Agricultural Stabilization and Conservation Service (ASCS) asked the Economic Research Service (ERS) to make a series of studies related to the tariff rates submitted and the costs associated with grain handling and storage. Results of the most recent updating of the costs of storing and handling grain in commercial elevators were published in the February, 1974 issue of the *Feed* Situation. (1)

This article summarizes the results of an analysis of the local tariff rates supplied by warehousemen in 1973 through the UGSA supplement and makes general regional comparisons of these rates and costs. Since a majority of the warehouses located in major grain producing states have a UGSA contract, the data on tariff rates provide relatively complete coverage of all commercial grain storage warehouses in the United States.

Table 1—Rates payable by Commodity Credit Corporation for storage and handling of grain under Uniform Grain Storage Agreement, 1973/74

Commodity	Storage	Loadout	
		Truck, Rail, Barge	Vessel
	Thousandths cent/ day/bushel	*Cents per bushel*	
Wheat	42	2½	1½
Barley	42	2½	1½
Rye	42	2½	1½
Oats	33	2½	1½
Sorghum	42	2½	1½
Corn	42	3	2
Soybeans	42	3	2
Flaxseed	42	3	2

Regional Demarcation

The warehouses included in the analysis were grouped into regions using the same regional demarcation as in the earlier ERS cost studies to allow regional comparisons. The states comprising each region are listed below:

Region	States included
North Plains	N. Dak., S. Dak., and Minn.
Mid-plains	Nebr., Kans., Colo., Wyo., Iowa, & Mo.
South Plains	Okla., N. Mex., & Texas
West	Wash., Oreg., Idaho, Mont., Calif., Ariz., Nev., & Utah
Lake States	Wis., Ill., Ind., Ohio & Mich.
South & East	Ark., Miss., S.C., Tenn., Ky., N.Y., Va., Pa., N.J., Md., Del., La., Ala., N.C., Ga., W. Va., & New England

The Sample

This analysis involved data from 6,479 warehouses, representing about 89, 86, and 92 percent of the country, inland terminal and port terminal warehouses, respectively (table 2). The methodology used in this analysis is presented in the Appendix.

NATIONAL AVERAGE RATES

A summary of weighted national average tariff rates for loading out and storing grain is presented in Table 3. The rates for loadout by truck generally exceeded 3.0 cents per bushel. Rates for this service at country elevators averaged about 3.5 cents, about 0.1 and 0.5 cent per bushel above those of inland and port terminals, respectively.[1] The weighted average tariff rates for loading out grain by rail were lower than the corresponding truck loadout rates, averaging about 3.4, 3.2 and 2.6 cents per bushel at country, inland terminal, and port terminal warehouses, respectively. Average charges for loading out railcars were higher than average barge loadout charges for all types of grain and all types of facilities. Barge loadout was the only activity where rates at country warehouses were lower than the rates at inland terminals for all types of grain. Weighted average rates for loading grain aboard ships varied from 2.3 cents per bushel for wheat to 2.6 cents per bushel for flaxseed.

Daily tariff rates charged for storing grain averaged about 43.6, 46.0, and 54.3 thousandths of a cent per day[2] at country, inland terminal, and port terminal warehouses, respectively. The rates for oats were relatively lower than those of other grains at country and inland terminal elevators. Likewise, the average rate for oats at port elevators was lower than rates for other grains, but the differential was not as great. Daily storage charges varied from 40.0 thousandths of a cent per bushel for oats at country elevators to about 57.6 thousandths for flaxseed at port elevators. But the average rate for flaxseed at port elevators is noticeably higher than those of other grains because of a sharply higher flaxseed rate relative to other grains at Gulf port terminals (Table 5). Only 10 of 19 Gulf port terminals quoted rates for flaxseed. Thus, there appears to be a strong preference for handling and storing commodities other than flaxseed at Gulf facilities.

REGIONAL COMAPRISONS OF AVERAGE RATES

The regional weighted average tariff rates charged by grain elevators in the United States for storing and loading out the various grains are summarized and discussed in the following sections. No attempt is made to combine the average rates for individual grains to determine a weighted average for all grains since the volume of each grain handled by a particular elevator was not known.

Country Warehouses

The warehouses included in this classification are those which cannot issue official weights and grades or those warehouses that do not choose to be classified as a terminal under their UGSA contract if official weights and grades are available. Official weights are available only from those warehouses having certified scales and where weighing is supervised by a licensed operator. Similarly, official USDA grades are available only from warehouses where official samples may be obtained from loaded railcars, trucks, or barges. The weighted average rates for storing and loading out grain at country elevators are presented in Table 4 by region and type of grain.

Storage

Data in table 4 reveal a great deal of variation among the regional weighted average rates for each grain. The Lake States region had the highest rates among the regions with the exception of rates for oats and corn which were highest in the North Plains. All average rates in the North Plains, Lake States, and South and East exceeded the national average except for the corn rate in the South and East region. The average rate for oats was the lowest of all rates in each region, ranging from 31.6 thousandths of a cent in the West to 44.9 in the North Plains. With the exception of corn in the North Plains, soybeans commanded the highest storage charges of any grain in all regions.

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[1] The terms country, inland terminal and port terminal warehouses are defined in the next section. The terms warehouse and elevator are used interchangably.

[2] Storage rates are expressed with significant digits only. For example, 43.6 thousandths of a cent is equal to .0436 cent or .000436 dollars. These rates correspond to monthly costs of 1.31, 1.38 and 1.63 cents per bushel (30 day months).

Table 2 .--Country and Terminal Warehouses: Number and Capacity Under UGSA Contract, Number and Capacity Included in the Analysis and Percent Analyzed, by Region

Type of Facility and Region	Under UGSA Contract 1/		Included in Analysis		Percent Analyzed	
	Number	Capacity	Number	Capacity	Number	Capacity
		1,000 bu.		1,000 bu.	- - Percent - -	
North Plains:						
Country	1,489	355,977	1,264	315,213	84.9	88.6
Inland Terminal	51	154,340	44	124,747	86.3	80.8
Mid-Plains:						
Country	2,733	1,212,803	2,471	1,115,717	90.4	92.0
Inland Terminal	161	636,740	140	559,884	87.4	87.9
South Plains:						
Country	626	483,209	524	412,070	83.7	85.3
Inland Terminal	77	307,931	69	298,201	89.6	96.8
Gulf Port Terminal	19	109,181	17	91,219	89.5	83.5
West:						
Country	607	262,332	526	232,222	86.7	88.5
Inland Terminal	23	35,316	18	23,589	78.3	66.8
Port Terminal	13	58,557	13	58,557	100.0	100.0
Great Lakes:						
Country	1,153	514,659	1,061	451,580	92.0	87.7
Inland Terminal	63	194,578	52	143,653	82.5	73.8
Port Terminal	21	157,732	20	156,042	95.2	98.9
East and South:						
Country	239	191,983	228	187,116	95.4	97.5
Inland Terminal	28	105,227	25	90,528	89.3	86.0
East Port Terminal	9	43,515	7	36,590	77.8	84.1
United States:						
Country	6,847	3,020,963	6,074	2,713,918	88.7	89.8
Inland Terminal	403	1,434,132	348	1,240,602	86.4	86.5
Port Terminal	62	368,985	57	342,408	91.9	92.8

1/ Number and Capacity of Warehouses operating under a UGSA Contract as of March 31, 1974.

Table 3.--Weighted Average Tariff Rates for Loading Out and Storing Grain by Mode of Transportation and Type of Grain, United States, 1974

Activity and Type of Grain	Country Warehouses		Inland Terminal Warehouses		Port Terminal Warehouses	
	- - - - Cents per bushel - - - -					
Loadout Truck						
Wheat	3.65		3.47		2.93	
Barley	3.43		3.37		2.97	
Rye	3.47		3.42		3.09	
Oats	3.29		3.32		2.89	
Grain Sorghum	3.53		3.47		2.96	
Corn	3.64		3.53		3.06	
Soybeans	3.75		3.56		3.16	
Flaxseed	3.76		3.52		3.28	
Loadout Rail						
Wheat	3.47		3.23		2.56	
Barley	3.25		3.12		2.56	
Rye	3.30		3.16		2.63	
Oats	3.15		3.09		2.53	
Grain Sorghum	3.34		3.21		2.56	
Corn	3.51		3.30		2.65	
Soybeans	3.62		3.33		2.70	
Flaxseed	3.63		3.33		2.73	
Loadout Barge						
Wheat	2.61		3.06		2.46	
Barley	2.67		3.08		2.43	
Rye	2.70		3.08		2.54	
Oats	2.60		3.08		2.43	
Grain Sorghum	2.66		3.10		2.46	
Corn	2.79		3.22		2.49	
Soybeans	2.81		3.19		2.55	
Flaxseed	3.05		3.24		2.64	
Loadout Ship						
Wheat	---		---		2.31	
Barley	---		---		2.34	
Rye	---		---		2.43	
Oats	---		---		2.33	
Grain Sorghum	---		---		2.36	
Corn	---		---		2.39	
Soybeans	---		---		2.43	
Flaxseed	---		---		2.61	
	- - - - per bushel - - - -					
Storage	Thousandths cent/day	Cents/ month	Thousandths cent/day	Cents/ month	Thousandths cent/day	Cents/ month
Wheat	43.74	1.33	46.52	1.41	53.94	1.64
Barley	43.08	1.31	46.28	1.41	53.63	1.63
Rye	43.72	1.33	46.44	1.41	54.52	1.66
Oats	40.00	1.22	42.90	1.30	52.99	1.61
Grain Sorghum	43.97	1.34	46.30	1.41	53.87	1.64
Corn	44.00	1.34	46.27	1.41	53.79	1.64
Soybeans	45.60	1.39	46.49	1.41	53.78	1.64
Flaxseed	44.52	1.35	47.13	1.43	57.58	1.75

Truck Loadout

The average charges for loading trucks were the lowest in the South and East region, ranging from 2.57 cents per bushel for sorghum to 3.04 cents for soybeans. On the other hand, the average rates for loading trucks were the highest in the South Plains for six of the eight grains, and these rates were in excess of 4.0 cents per bushel. The highest rates in the South Plains were for wheat and sorghum, the predominant grains grown in that region. As was the case for storage charges, greater variation in rates existed among regions than among grains.

Rail Loadout

Regional weighted average rates for loading rail cars at country elevators followed the same general pattern as rates for loading trucks. Again, the lowest rates were found in the South and East region while the higher rates were found in the North Plains or South Plains depending upon the type of grain. These rates varied from a low of 2.42 cents per bushel for barley in the South and East to a high of 4.60 cents per bushel for flaxseed in the North Plains.

Barge Loadout

Rates for loading barges were generally lower than those for either rail or truck, but the number of plants reporting barges rates was relatively small. The weighted average rates for corn and soybeans in the Lake States involved rates from 19 warehouses, and the rates for other grains for barge loadout involved a smaller number of plants. The lowest average rates were found in the South and East region.

Inland Terminal Warehouses

Warehouses included in this classification are those which can issue official weights and grades and elect to be classified as a terminal under their UGSA contract. There were 403 inland terminal warehouses operating under a UGSA contract as of March 31, 1974, and data from 348 of these were included in the analysis. Although inland terminals represent only 5.4 percent of the number of warehouses analyzed, these 348 elevators have almost 29 percent of the storage capacity covered by the analysis. The weighted average tariff rates for storing and loading out grain at inland terminals are shown in Table 5 by region and type of grain.

Storage

The average daily tariff rates for storage at terminals averaged about 46 thousandths of a cent per bushel per day (1.38 cents per month) or almost 2.5 thousandths more than the rates reported by country warehouses. More variation was observed among the regional averages at terminals than was observed at country elevators. The lowest rates were reported in the West where rates averaged about 37.8 thousandths of a cent while the highest rates were reported by warehouses located in the North Plains where rates averaged over 55 thousandths of a cent per day. This inter-regional spread represents a difference of about 6.5 cents per bushel on an annual basis. With the exception of rates for storing oats which were noticeably lower than those for other grains, the variation among rates for individual grains was not great. Average rates for all grains were above the respective national average in the North Plains, Lake States, and South and East regions, a characteristic that was observed in the storage rates at country elevators.

Truck Loadout

The average rates for loading trucks at terminals ranged from 2.5 cents per bushel for oats in the West to 4.4 cents per bushel for flaxseed in the North Plains. The higher rates were found in the North Plains and Mid-plains regions where the average rates for all grains exceeded the respective national average.

Rail Loadout

Rail is the predominant mode of transportation used by inland terminal elevators when shipping grain. As was the case at country elevators, average rates for loading railcars at terminal elevators were generally lower than corresponding truck loadout rates. These rates averaged about 3.2 cents per bushel and ranged from a low of 2.1 cents in the South and East to a high of 4.0 cents in the North Plains. It should be noted that while storage rates in the Lake States were noticeably lower for corn and soybeans, the rail loadout rates were relatively higher for these commodities. Rates in North Plains and Mid-plains regions again exceeded the corresponding national average for each grain.

Barge Loadout

Almost 60 percent of the terminal elevators reporting barge rates were located in the North Plains and Mid-plains regions, and all average rates in these regions exceeded the respective national average. Barge loadout rates in the West region were considerably lower than those in other regions, but only a small number of warehouses in that region was included in the weighted averages.

Port Terminal Warehouses

The elevators included in this classification were those having the capability to load grain aboard ships. All of these warehouses may issue official weights and grades and are considered to be terminal elevators under the UGSA.

Table 4.--Country Warehouses: Weighted Average Tariff Rates for Storing and Loading Out Grain, by Region and Type of Grain, United States, 1973-74

Function and Region	Wheat	Barley	Rye	Oats	Sorghum	Corn	Soybeans	Flaxseed
	- - - - Thousandths of a cent per bushel per day - - - -							
Storage								
North Plains	46.83	46.81	46.91	44.92	46.51	46.98	46.95	47.11
Mid-Plains	42.93	42.96	42.92	39.21	42.95	43.16	44.86	43.60
South Plains	43.71	43.25	42.65	37.94	44.16	44.26	44.26	43.46
West	36.50	35.36	36.31	31.55	37.65	38.05	39.08	36.20
Lake States	47.08	48.99	49.01	43.50	48.12	45.36	47.86	47.27
South and East	46.11	43.17	46.88	43.08	45.96	43.95	46.10	45.47
United States	43.74	43.08	43.72	40.00	43.97	44.00	45.60	44.52
	- - - - Cents per bushel - - - -							
Truck Loadout								
North Plains	4.13	3.80	4.10	3.72	3.27	3.58	3.86	4.64
Mic-Plains	3.21	3.14	3.12	3.14	3.21	3.43	3.51	3.38
South Plains	4.61	4.03	4.10	3.56	4.72	4.60	4.31	3.47
West	3.51	3.38	3.14	2.99	2.91	3.31	3.37	3.86
Lake States	3.88	3.44	3.47	3.57	3.49	3.76	4.22	3.62
South and East	2.68	2.62	2.63	2.59	2.57	2.95	3.04	3.00
United States	3.65	3.43	3.47	3.29	3.53	3.64	3.75	3.76
Rail Loadout								
North Plains	4.09	3.78	4.09	3.69	3.27	3.51	3.78	4.60
Mid-Plains	3.04	2.96	2.95	3.03	3.04	3.34	3.41	3.23
South Plains	4.22	3.56	3.58	3.08	4.35	4.16	3.85	3.10
West	3.29	3.24	3.07	2.93	2.84	3.22	3.28	3.79
Lake States	3.83	3.48	3.50	3.50	3.48	3.74	4.23	3.55
South and East	2.55	2.42	2.47	2.51	2.48	2.75	2.90	2.80
United States	3.47	3.25	3.30	3.15	3.34	3.51	3.62	3.63
Barge Loadout								
North Plains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mid-Plains	2.61	2.60	2.56	2.63	2.63	2.79	2.79	3.78
South Plains	3.00	0.0	0.0	0.0	0.0	0.0	3.00	0.0
West	2.92	2.86	2.91	2.91	3.90	2.83	3.90	3.90
Lake States	2.90	2.89	2.89	2.89	2.89	2.93	2.91	2.96
South and East	2.30	2.43	2.48	2.29	2.44	2.67	2.69	2.67
United States	2.61	2.67	2.70	2.60	2.66	2.79	2.81	3.05

Table 5.--Terminal Warehouses: Weighted Average Tariff Rates for Storing and Loading Out Grain, by Region and Type of Grain, United States, 1973-74

Function and Region	Type of Grain							
	Wheat	Barley	Rye	Oats	Sorghum	Corn	Soybeans	Flaxseed
	- - - - Thousandths of a cent per bushel per day - - - -							
Storage								
North Plains	55.62	55.71	55.71	54.40	55.95	55.76	55.70	55.54
Mid-Plains	45.09	45.16	45.17	41.51	45.08	45.19	45.23	44.50
South Plains	42.71	42.75	42.85	36.96	42.73	42.79	42.74	42.29
West	39.44	37.64	38.66	33.78	38.15	38.42	38.97	37.70
Lake States	53.36	54.17	55.82	51.15	54.77	49.86	49.99	53.86
South and East	49.59	49.01	49.17	48.49	49.65	48.31	49.07	53.43
United States	46.52	46.28	46.44	42.90	46.30	46.27	46.49	47.13
	- - - - Cents per bushel - - - -							
Truck Loadout								
North Plains	3.98	3.70	3.98	3.72	3.79	3.77	4.05	4.36
Mid-Plains	3.54	3.53	3.55	3.50	3.54	3.68	3.68	3.61
South Plains	3.48	3.12	3.12	3.11	3.52	3.44	3.46	2.86
West	2.87	2.72	2.77	2.49	2.69	2.87	2.96	3.03
Lake States	3.05	2.88	2.95	2.97	2.94	2.84	3.05	2.96
South and East	2.77	3.02	3.02	2.68	2.81	3.23	3.15	3.27
United States	3.47	3.37	3.42	3.32	3.47	3.53	3.56	3.52
Rail Loadout								
North Plains	3.67	3.46	3.68	3.47	3.50	3.53	3.74	4.03
Mid-Plains	3.27	3.27	3.27	3.26	3.27	3.40	3.40	3.47
South Plains	3.32	2.96	2.98	2.97	3.35	3.28	3.29	2.86
West	2.75	2.60	2.53	2.37	2.51	2.70	2.78	2.86
Lake States	2.97	2.69	2.73	2.74	2.69	3.02	3.15	2.77
South and East	2.44	2.16	2.14	2.35	2.46	2.41	2.81	2.32
United States	3.23	3.12	3.16	3.09	3.21	3.30	3.33	3.33
Barge Loadout								
North Plains	3.65	3.65	3.65	3.65	3.74	3.81	3.81	3.81
Mid-Plains	3.47	3.47	3.47	3.47	3.47	3.64	3.64	3.80
South Plains	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
West	1.52	1.52	1.52	1.52	1.52	1.52	1.52	1.52
Lake States	2.33	2.33	2.33	2.33	2.33	2.33	2.33	2.40
South and East	2.00	2.05	2.05	2.05	2.05	2.17	2.19	2.16
United States	3.06	3.08	3.08	3.08	3.10	3.22	3.19	3.24

Table 6.--Port Terminal Warehouses: Weighted Average Tariff Rates for Storing and Loading Out Grain, by Region and Type of Grain, United States, 1973-74

Function and Region	Type of Grain							
	Wheat	Barley	Rye	Oats	Sorghum	Corn	Soybeans	Flaxseed
	- - - - Thousandths of a cent per bushel per day - - - -							
Storage								
Great Lakes	59.22	60.30	60.30	59.05	60.23	59.11	59.11	60.23
Atlantic	51.86	51.86	51.86	51.86	52.09	51.86	51.86	50.00
Gulf	46.93	47.41	48.75	47.37	46.93	47.41	47.41	60.91
Pacific	52.10	48.15	48.90	45.33	50.84	50.78	49.17	48.72
United States	53.94	53.63	54.52	52.99	53.87	53.79	53.78	57.58
	- - - - Cents per bushel - - - -							
Truck Loadout								
Great Lakes	3.62	3.80	3.80	3.62	3.86	3.75	3.75	3.87
Atlantic	3.08	3.08	3.08	3.08	3.08	3.16	3.08	3.09
Gulf	1.76	1.82	1.82	1.82	1.76	2.02	2.02	1.85
Pacific	2.38	2.17	2.84	1.88	2.31	2.31	2.87	2.82
United States	2.93	2.97	3.09	2.89	2.96	3.06	3.16	3.28
Rail Loadout								
Great Lakes	3.33	3.44	3.44	3.33	3.44	3.41	3.41	3.46
Atlantic	2.21	2.21	2.21	2.21	2.21	2.28	2.21	2.08
Gulf	1.53	1.55	1.55	1.55	1.53	1.69	1.69	1.44
Pacific	2.24	2.12	2.39	1.95	2.19	2.20	2.41	2.41
United States	2.56	2.56	2.63	2.53	2.56	2.65	2.70	2.73
Barge Loadout								
Great Lakes	3.41	3.41	3.41	3.41	3.41	3.44	3.44	3.44
Atlantic	2.21	2.21	2.21	2.21	2.21	2.28	2.21	2.08
Gulf	1.17	1.17	1.21	1.21	1.17	1.26	1.26	1.20
Pacific	1.76	1.59	1.71	1.36	1.71	1.70	1.75	1.73
United States	2.46	2.43	2.54	2.43	2.46	2.49	2.55	2.64
Ship Loadout								
Great Lakes	3.17	3.37	3.37	3.23	3.42	3.29	3.29	3.45
Atlantic	2.02	2.02	2.02	2.02	2.02	2.07	2.02	2.14
Gulf	1.18	1.19	1.23	1.23	1.18	1.30	1.30	1.33
Pacific	1.64	1.52	1.57	1.36	1.60	1.60	1.58	1.57
United States	2.31	2.34	2.43	2.33	2.36	2.39	2.43	2.61

Storage

Average storage charges at port terminals were significantly higher than other facilities and on average exceeded the rates at inland terminals by more than 8.2 thousandths of a cent per bushel per day (table 6). The highest rates were quoted by Great Lake terminals where all average rates exceeded 59.0 thousandths of a cent per bushel per day (1.77 cents per month). The average rate for flaxseed at Gulf elevators was 60.9 thousandths (1.83 cents) which resulted in a relatively high national average rate. With the exception of oats and flaxseed, average storage rates were lower at Gulf port terminals than in other Coastal areas.

Loadout

The rates for loading out grain at port terminals exhibited a regional variation similar to the storage rates for all modes of transportation. The average rates were the highest at Great Lake port terminals and the lowest at Gulf port terminals for all modes. A majority of grain handled at port elevators is loaded aboard ships, and these rates ranged from a low of 1.18 cents per bushel for wheat and sorghum at the Gulf to a high of 3.45 cents for flaxseed at the Great Lakes.

REGIONAL COMPARISONS OF AVERAGE RATES AND ESTIMATED COSTS

The average rates reported above exhibited a wide variation among regions with much less variation among the rates for individual grains within regions. To evaluate the extent to which regional differences in weighted average rates are reflective of cost differences, simple averages of weighted average tariff rates for the various grains and oilseeds were computed. These average rates are presented along with comparable cost estimates in table 7. Cost estimates which are presented are based on two costing methods. Estimates entitled "book values" involve a *standardized book cost* method where depreciation and interest on investment expenses were computed using original acquisition costs of buildings and equipment and uniform rates of depreciation and interest for all plants. Estimates entitled "replacement values" are based on a *replacement cost* method where depreciation and interest on investment expenses were computed using estimated costs of replacing the elevator's physical plant assets at 1973/74 price levels rather than book cost. Thus the former method should more nearly represent the average 1973/74 expenditures incurred by elevators operating at the time of the survey, and the latter method should more nearly represent the average expenditures that would have been incurred by more recent entrants into the industry.

Since data on tariff rates for unloading grain at elevators were not available, a complete comparative picture of rate-cost structure in handling is not available. Therefore, rate-cost comparisons will be limited to loadout by the predominant mode of transportation; i.e., rail at country and inland terminal warehouses, and vessel at port terminals.

Country Warehouses

On average, rail loadout rates exceeded estimated book cost and replacement cost by 0.8 cent and 0.4 cent per bushel, respectively, at country warehouses. The rates exceeded book cost in all regions except the South and East. Compared to replacement cost, average rates were higher in three regions and lower in the other three, and the difference ranged from 1.7 cents above in the North Plains to 0.8 cent below in the South Plains and South and East regions.

The average annual tariff rates for storage at country warehouses were between estimated book cost and replacement cost in all regions except the North Plains and Mid-Plains where the average rates approximated the replacement cost estimates. For all country warehouses included in the analysis, the average tariff rate of 15.9 cents for storage exceeded estimated book cost by 5.9 cents per bushel but was 0.9 cent below replacement cost. Although average replacement costs were noticeably higher than average tariff rates in the West and South and East regions, only 15 percent of total country warehouse storage capacity is located within the 31 States comprising those regions (Table 2).

Inland Terminal Warehouses

Although average rail loadout rates at inland terminals were generally lower than the corresponding country rates, estimated costs were significantly lower and the average rate exceeded both cost estimates in all regions except the South and East. In contrast to country warehouses, the average tariff rate exceeded average replacement cost for storage by 1.0 cent per bushel, and was 10.0 cents per bushel above book cost for storage (table 7). In terms of regional averages, the average rate for storage was higher than replacement cost in three regions and lower in three others. The three regions having the highest average rates also have the lowest cost based on replacement values. This would support a hypothesis that factors other than cost are very important in establishing local tariff rates at various locations.

Port Terminal Warehouses

Compared to inland terminals, the average rate for storage at port warehouses was 3.0 cents per bushel higher, averaging 19.8 cents per bushel per year. However, book and replacement costs were 4.4 and 8.2 cents per bushel higher, respectively, and average

Table 7.--A Comparison of Average Tariff Rates and Estimated Costs Based on Standardized Book Values and Replacement Values for Shipping and Storing Grain by Area and Type of Facility, United States, FY 1973-74

Type of Facility and Area	Shipping 1/			Storage		
	Average Tariff Rates 2/	Cost Estimates		Average Tariff Rates 2/	Cost Estimates	
		Book Values 3/	Replacement Values 4/		Book Values 3/	Replacement Values 4/
	- - Cents per bushel - -			- - Cents per bushel per year - -		
Country Warehouses						
North Plains	3.9	2.0	2.2	17.0	10.4	17.0
Mid-Plains	3.1	2.5	2.9	15.6	8.8	15.5
South Plains	3.7	3.3	4.5	15.7	7.3	16.5
West	3.2	2.9	3.4	13.3	8.5	17.3
Lake States	3.7	2.9	3.0	17.2	13.9	18.2
South and East	2.6	3.1	3.4	16.5	15.5	23.6
United States	3.4	2.6	3.0	15.9	10.0	16.8
Inland Terminal Warehouses						
North Plains	3.6	1.8	2.4	20.3	5.4	10.7
Mid-Plains	3.3	1.9	2.4	16.3	6.7	16.6
South Plains	3.1	1.6	2.9	15.3	7.2	21.1
West	2.6	1.2	1.5	13.8	9.2	15.1
Lake States	2.8	1.5	1.9	19.3	7.9	14.1
South and East	2.4	2.8	3.2	18.1	6.8	12.4
United States	3.2	1.8	2.4	16.8	6.8	15.8
Port Terminal Warehouses						
Great Lakes	3.3	.9	1.3	21.8	7.0	22.0
Atlantic	2.0	1.4	2.0	18.8	6.8	22.0
Gulf	1.2	.8	.9	17.9	18.2	25.9
Pacific	1.6	1.1	1.3	18.0	16.4	28.7
United States	2.4	.9	1.1	19.8	11.2	24.0

1/ Rate and cost data for shipping are for rail loadout at country and inland terminal warehouses and for vessel loadout at port warehouses.

2/ These rates represent simple averages of the weighted average tariff rates presented in Tables 4, 5, and 6.

3/ Depreciation based on standard depreciation rates applied to original acquisition cost of buildings and equipment.

4/ Depreciation and interest on investment based on replacing building and equipment at 1973/74 price levels.

Source: Schienbein, Allen. Cost of Storing and Handling Grain and Controlling Dust in Commercial Elevators, 1971-72 ...Projections for 1973-74. USDA, Econ. Res. Ser., ERS-513, March 1973 and unpublished data on standardized book cost by region.

rates charged were below replacement cost in all regions. This difference ranged from 0.2 cent in the Great Lakes region to 12.3 cents in the Pacific region. As was the case with inland terminals, the regions with the lowest average storage rates had the highest average cost estimates. It should be noted that the average vessel loadout rate was equal to or greater than estimated cost in all regions and averaged 1.3 cents per bushel over average replacement cost. The comparison of loadout rates and cost at port terminals is perhaps more important than in the storage rate-cost relationship since the primary purpose of port warehouses is to load ships rather than store grain for long periods of time. The Great Lake terminals would be an exception during the period when the Lakes are frozen and storage is the primary activity.

SUMMARY AND CONCLUSIONS

The average tariff rates reported in this article exhibited a wide variation among regions with much less variation among the average rates for individual grains within regions. However, oats did exhibit a lower rate for storage in all regions, and this probably reflects the greater ease of handling this commodity. Likewise, the slightly higher average storage rate for soybeans at country warehouses probably reflects similar considerations.

Regional comparisons of average rates indicated that the average storage rates for all commodities were above the respective national averages in the North Plains, Lake States, and South and East regions. This fact was observed at both country and inland terminal warehouses. Likewise, the weighted average rates for storage and handling at Great Lake port terminals were significantly above the corresponding average rates observed in other port areas with the exception of flaxseed at Gulf port terminals.

Comparisons of average regional tariff rates with estimated costs revealed that the regional variations in rates were not consistent with regional differences in costs. This fact was quite apparent at inland and port terminal facilities where the three inland and two port regions having the highest storage rates also had the lowest cost estimates based on replacement values. One explanation of this observed relationship would involve average occupancy levels. The projected occupancy levels used in the cost studies were generally higher in these regions, and this would result in lower cost estimates. Since about 77 and 83 percent of total replacement costs for storage at inland and port terminals, respectively, is fixed cost, the per bushel costs are highly dependent on the volume of grain handled and stored. A high occupancy level would also indicate less excess storage capacity and would tend to result in less rate competition to attract additional volumes. In many States maximum and/or minimum rates are set by the State Railway Commission, State Warehouse Commission, or another governing body, and the warehousemen are limited accordingly in establishing the rates they charge. Additional research is needed to determine what factors other than cost are important in establishing local tariff rates.

APPENDIX

The supplements were reviewed by ASCS when received and acceptable supplements were furnished ERS for analysis. At the time the analysis was made, 6,704 supplements were available. Of those available, 225 were rejected for duplicate or incorrect warehouse codes, leaving a total of 6,479 supplements for analysis, about 88.6 percent of the warehouses with UGSA contracts as of March 31, 1974 (Table 2).

Many warehousemen apparently felt that the entire schedule of rates in the supplement was to be completed. For example, it was not uncommon to encounter supplements specifying barge loadout rates although these were inapplicable. To eliminate inapplicable rates for each warehouse, data submitted on the supplements were compared with the loadout capabilities specified by the warehouse on its application for a UGSA contract. If rates were submitted for rail or barge loadout services but no capability for load out by either or both of these modes was indicated, the rates were deleted. Truck rates were accepted in all cases except those where the warehouse had indicated a capability to load barges only.

Unfortunately, it was not possible to eliminate inapplicable commodities which were included on some supplements. A warehouse might have responded that its rates were the "same as UGSA for all commodities." In these cases, and in cases where the warehouseman did specify rates for all commodities, it was necessary to include all in the analysis. The authors could not determine any valid basis for rejecting commodities from any particular supplement. However, since the averages are weighted by the storage capacity of the individual respondents, the influence exerted by non-applicable rates should be small in the regional and national averages.

The rates submitted on each supplement were weighted by the reported storage capacity of the warehouse as reported in its UGSA application. This is equivalent to stating that each grain occupies an equal amount of the total capacity among warehouses.

The formula used for all grains was $\bar{r}_k = \dfrac{\sum_i r_{ik} c_{ik}}{\sum_i c_{ik}}$

where $\bar{r}_k$ = weighted average rate for grain k,

r_{ik} = the rate submitted by the $i^{\underline{th}}$ warehouse for grain k, and

c_{ik} = the capacity of the $i^{\underline{th}}$ warehouse submitting a rate for grain k.

Accordingly, all of the weighted averages are based upon different capacities. If no rate was reported by a particular warehouse for a commodity, then the capacity of that warehouse was not computed in the divisor. All averages are computed solely from those warehouses submitting data.

REFERENCES

(1) Schienbein, Allen. "Cost of Storing and Handling Grain in Commercial Elevators Projections for 1974-75", *Feed Situation.* USDA, Econ. Res. Serv., FdS-252, February 1964, pp. 31-41.

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